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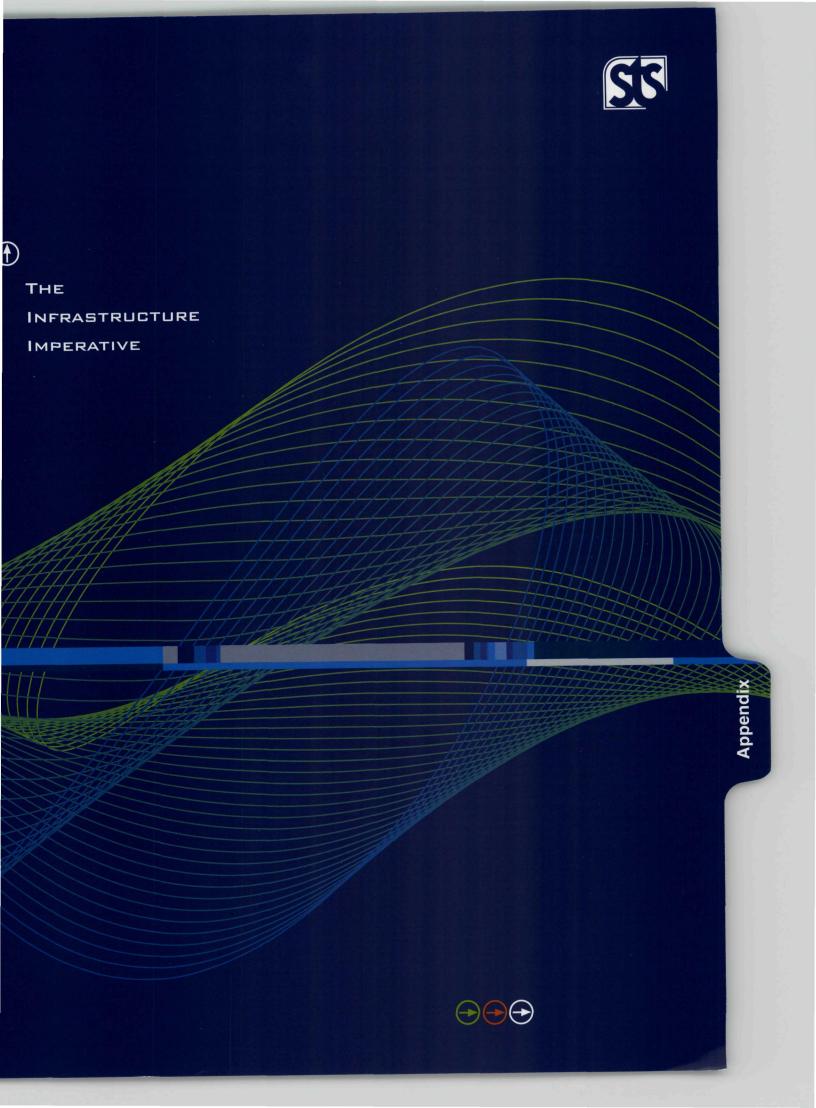
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Completion Report Time-Critical Removal Action Lindsay Light II Site/ (OU3/North McClurg Court) 341 East Ohio Street Chicago, Illinois

Volume II - Appendices

STS Project No. 1-25585-XJ December 31, 2002

Teachers' Retirement System of the State of Illinois





APPENDIX A

Unilateral Administrative Order dated June 6, 1996, as amended by First Amendment dated March 29, 2000 and Action Memorandum Amendment dated March 1, 2001

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY Region 5

IN THE MATTER OF:)	Docket No. V-W- 96-C-35
Lindsay Light II Site)	ADMINISTRATIVE ORDER
Chicago, Illinois)	PURSUANT TO SECTION 106(a)
)	OF THE COMPREHENSIVE
)	ENVIRONMENTAL RESPONSE,
Respondents:)	COMPENSATION, AND
)	LIABILITY ACT OF 1980,
The Chicago Dock & Canal Trust)	AS AMENDED, 42 U.S.C.
Kerr-McGee Chemical Corporation)	SECTION 9606(a)

I. JURISDICTION AND GENERAL PROVISIONS

This Order is issued pursuant to the authority vested in the President of the United States by Section 106(a) of the Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended ("CERCLA"), 42 U.S.C. § 9606(a), and delegated to the Administrator of the United States Environmental Protection Agency ("U.S. EPA") by Executive Order No. 12580, January 23, 1987, 52 Federal Register 2923, and further delegated to the Regional Administrators by U.S. EPA Delegation Nos. 14-14-A and 14-14-B, and to the Director, Superfund Division, Region 5, by Regional Delegation Nos. 14-14-A and 14-14-B.

This Order pertains to property located at 316 East Illinois Street, Chicago, Illinois (the "Lindsay Light II Site" or the "Site"). This Order requires the Respondents to conduct removal activities described herein to abate an imminent and substantial endangerment to the public health, welfare or the environment that may be presented by the actual or threatened release of hazardous substances at or from the Site.

U.S. EPA has notified the State of Illinois of this action pursuant to Section 106(a) of CERCLA, 42 U.S.C. § 9606(a).

II. PARTIES BOUND

This Order applies to and is binding upon Respondents and Respondents' heirs, receivers, trustees, successors and assigns. Any change in ownership or corporate status of Respondents including, but not limited to, any transfer of assets or real or personal property shall not alter such Respondents' responsibilities under this Order. Respondents are jointly and severally liable for carrying out all activities required by this Order. Compliance or noncompliance by one or more Respondent with any provision of this Order shall not excuse or justify noncompliance by any other Respondent.

Respondents shall ensure that their contractors, subcontractors, and representatives comply with this Order. Respondents shall be responsible for any noncompliance.

III. FINDINGS OF FACT

Based on available information, including the Administrative Record in this matter, U.S. EPA hereby finds that:

- 1. The Lindsay Light II Site ("the Site" or "the Facility") is located at 316 East Illinois Street, Chicago, Cook County, Illinois. The Site is situated in an urban area called the Gold Coast, and is surrounded by commercial and residential buildings. A shopping mall is located approximately 200 feet to the southeast. The Chicago River is located 1 mile south of the Site, and Lake Michigan is about 1.5 miles east of the Site.
- 2. The Site is currently a parking lot operated by General Parking, and owned by the Chicago Dock and Canal Trust ("CDCT").
- 3. Until 1936, Lindsay Light manufactured incandescent gas mantels at 161 East Grand, which is .25 miles from the Site. It is unknown if they worked elsewhere; however, Sanborn maps from 1906 do show Lindsay Light being at other Chicago locations. During 1931-1936, the company moved its operations to West Chicago, Illinois.
- 4. The principal ingredient in gas mantle manufacture is thorium as a nitrate. Small amounts of cerium, beryllium and magnesium nitrates are also used. Thorium occurs principally as the parent radionuclide thorium-232 in association with its daughter products in a decay sequence known as the Thorium Decay Series. Thorium radionuclides are also found in the Uranium Decay Series and the Actinium Decay Series. It is believed that the principal source of contamination at this Site is the Thorium Decay Series.
- 5. It is unclear what Lindsay Light actually did at 316 East Illinois; however, records from The Chicago Dock and Canal Trust indicate this Site was a stable, and that Lindsay Light leased portions of the building from The Chicago Dock and Canal Trust from 1915-1933.
- 6. On June 3, 1993, U.S. EPA and the Illinois Department of Nuclear Safety conducted a joint investigation at the Site. This investigation verified the presence of radioactivity at levels clearly above natural background. Gamma readings were found as high as 280 uR/hr on a Ludlum Model 19 Micro-R meter. Background measured at the Site had gamma readings of 20 uR/hr.

- Chicago Dock and Canal Trust entered 7. The into Administrative Order by Consent ("AOC") with U.S. EPA to study the extent of subsurface radiation and radionuclide content before excavation. The AOC was signed by U.S. EPA on January 27, 1994, and the extent of contamination ("EOC") study was completed by CDCT in May 1994. The final report concerning the extent of contamination was delivered to U.S. EPA on October 17, 1995, and was approved March 13, 1996.
- 8. A brief summary of the final report approved by U.S. EPA on March 13, 1996, is as follows: 12 areas exhibit elevated gamma levels; the maximum contamination depth extends to 2.5 meters (8 feet) below the ground surface; and Resource Conservation and Recovery Act ("RCRA")-characteristic waste is not present on-site. The highest gamma level is 252 times above background, or 1.1 milliRoentgen per hour.
- 9. Activities completed at this Site, besides the extent of contamination study, have been the voluntary placement by CDCT of notices at the entrances to the parking lot informing patrons of the risks associated with the lot.

IV. CONCLUSIONS OF LAW AND DETERMINATIONS

Based on the Findings of Fact set forth above, and the Administrative Record supporting these removal actions, U.S. EPA determines that:

- 1. The Lindsay Light II Site is a "facility" as defined by Section 101(9) of CERCLA, 42 U.S.C. § 9601(9).
- 2. Radionuclides are "hazardous substances" as defined by Section 101(14) of CERCLA, 42 U.S.C. § 9601(14).
- 3. Each Respondent is a "person" as defined by Section 101(21) of CERCLA, 42 U.S.C. § 9601(21).
- 4. Respondent The Chicago Dock & Canal Trust is the present "owner" and "operator" of the Lindsay Light II Site, as defined by Section 101(20) of CERCLA, 42 U.S.C. § 9601(20). Respondent Kerr-McGee Chemical Corporation is a person who is the corporate successor of the Lindsay Light Company. The Lindsay Light Company was the operator of the Lindsay Light II Site at the time of disposal of any hazardous substances, or who arranged for disposal or transport for disposal of hazardous substances at the Lindsay Light II Site. Respondents are therefore liable persons under Section 107(a) of CERCLA, 42 U.S.C. § 9607(a).

- 5. The conditions described in the Findings of Fact above constitute an actual or threatened "release" into the "environment" as defined by Sections 101(8) and (22) of CERCLA, 42 U.S.C. §§ 9601(8) and (22).
- 6. The conditions present at the Site constitute a threat to public health, welfare, or the environment based upon the factors set forth in Section 300.415(b)(2) of the National Oil and Hazardous Substances Pollution Contingency Plan, as amended ("NCP"), 40 CFR Part 300. These factors include, but are not limited to, the following:
 - a. actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances, pollutants or contaminants;

This factor is present at the Site due to the existence of a public parking lot on property found to have gamma readings measured as high as 1.1 milliRoentgen per hour. This reading is 252 times the background level measured for the Site.

Gamma rays are penetrating radiation indistinguishable from X-rays which can be absorbed by tissue in the human body, thereby increasing the cancer risk for the person exposed. The excess risk to a transient spending 29 minutes per day for a 250 day work year at the peak exposure spot is 10⁻⁴. Transients were judged to be parking lot customers, people using the lot for a short cut, or temporary workers.

The Site is surrounded by two-foot high steel guardrails, which do not totally restrict access. Furthermore, there are two parking attendants stationed at this parking lot on a 24hour basis to collect fees, although initial readings taken on June 3, 1993, indicate that there were no levels above background where the attendants are stationed. Again, such an exposure entails cancer risk that would have no personal or societal benefit. Direct measurement with survey instruments at the present parking lot attendant stations found background radiation levels which were confirmed with longer measurements using thermoluminescent dosimeters ("TLDs") placed in the ticket booths between June 3, 1993, and June 30, 1993. Conditions at the Site have not changed since the site assessment on June 3, 1993. There is no guarantee that the ticket booths could not be moved to the peak point of gamma readings at some future time, thereby introducing the potential for exposure and risk to be actualized.

The EOC study confirmed that elevated radioactivity levels are due to past industrial processes. The Site is also surrounded by commercial and residential buildings, whose occupants use this parking lot and adjacent sidewalks. Situated 200 feet southeast of the Site is the North Pier shopping mall.

b. high levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface, that may migrate;

This factor is present at the Site due to the existence of elevated gamma exposure levels which validates subsurface deposits of radiological contaminants. The dominant concern is intrusion into these materials that will contaminate the intruder and their equipment and, further, lead to dispersal or spreading of the contaminants from their present locations. Such a scenario probably has arisen, and could again arise, with parking lot excavation where workers and their equipment are contaminated by radioactive soils, dry soil dispersed in the wind, and excavation spoils moved off-site. The number of people exposed could greatly increase and might include workers who subsequently use contaminated machinery, residents near the parking lot who might come in contact with wind dispersed soils, and use of excavation spoils. Such spreading could occur within downtown Chicago where the parking lot is located and out for several miles depending upon where workers reside and where spoils are used.

c. other situations or factors that may pose threats to public health or welfare or the environment;

This factor is present at the Site due to the property's planned future development. Such construction would entail excavating into potentially contaminated soils for placement of building footings and cause increased releases into the environment and human exposure to contaminants. Also, it has not been determined whether subsurface contaminants are soluble. If they are, there could be spreading via groundwater.

This Site appears to be gridded with sewer lines. These could be conduits for the spread of both soluble and insoluble materials off-site, for extension of the region of contamination, and for an increase in the potential for sewer workers to be exposed to contaminants.

- 7. The actual or threatened release of hazardous substances from the Site may present an imminent and substantial endangerment to the public health, welfare, or the environment within the meaning of Section 106(a) of CERCLA, 42 U.S.C. § 9606(a).
- 8. The removal actions required by this Order are necessary to protect the public health, welfare, or the environment, and are not inconsistent with the NCP and CERCLA.

V. ORDER

Based upon the foregoing Findings of Fact, Conclusions of Law, Determinations, and the Administrative Record for this Site, U.S. EPA hereby orders that Respondents perform the following actions:

1. Notice of Intent to Comply

Respondents shall notify U.S. EPA in writing within 3 business days after the effective date of this Order of Respondents' irrevocable intent to comply with this Order. Failure of each Respondent to provide such notification within this time period shall be a violation of this Order.

2. <u>Designation of Contractor, Project Coordinator, and On-Scene Coordinator</u>

Respondents shall perform the removal actions themselves or retain contractors to implement the removal actions. Respondents shall notify U.S. EPA of Respondents' qualifications or the name and qualifications of such contractors, whichever is applicable, within 10 business days of the effective date of this Order. Respondents shall also notify U.S. EPA of the name and qualifications of any other contractors or subcontractors retained to perform work under this Order at least 5 business days prior to commencement of such work. U.S. EPA retains the right to disapprove of the Respondents or any of the contractors and/or subcontractors retained by the Respondents. If U.S. EPA disapproves a selected contractor, Respondents shall retain a different contractor within 2 business days following U.S. EPA's disapproval and shall notify U.S. EPA of that contractor's name and qualifications within 3 business days of U.S. EPA's disapproval.

Within 10 business days after the effective date of this Order, the Respondents shall designate a Project Coordinator who shall be responsible for administration of all the Respondents' actions required by the Order and submit the designated coordinator's name, address, telephone number, and qualifications to U.S. EPA. To the greatest extent possible, the Project Coordinator shall be present on-site or readily available during site work. U.S. EPA retains the right to disapprove of any Project Coordinator named by the selected Project Respondents. If U.S. EPA disapproves a shall retain a different Coordinator, Respondents Coordinator within 3 business days following U.S. EPA's disapproval and shall notify U.S. EPA of that person's name and qualifications within 4 business days of U.S. EPA's disapproval. Receipt by Respondents' Project Coordinator of any notice or communication from U.S. EPA relating to this Order shall constitute receipt by all Respondents.

The U.S. EPA has designated Verneta Simon of the Emergency Response Branch, Region 5, as its On-Scene Coordinator (OSC). Respondents shall direct all submissions required by this Order to the OSC at U.S. EPA, 77 West Jackson Boulevard, SE-5J, Chicago, Illinois, 60604-3590, by certified or express mail. Respondents shall also send a copy of all submissions to Nancy-Ellen Zusman, Assistant Regional Counsel, 77 West Jackson Boulevard, C-29A, Chicago, Illinois, 60604-3590. All Respondents are encouraged to make their submissions to U.S. EPA on recycled paper (which includes significant postconsumer waste paper content where possible) and using two-sided copies.

3. Work to Be Performed

Respondents shall perform, at a minimum, the following response activities:

- a. Develop and implement a Site Health and Safety Plan.
- b. Develop and implement Site security measures.
- c. Develop and implement an air monitoring program.
- d. Remove contamination until the cleanup criterion of 5 picoCuries per gram total radium (radium-226 + radium-228) over background is achieved. This cleanup criterion will be met in each 15 centimeter layer below the surface. Averaging over areas up to 100 square meters will be allowed, but only after reasonable efforts have been made to achieve levels As Low As Reasonably Achievable ("ALARA"). It is not U.S. EPA's intent to leave any elevated areas of contamination if at all possible.
- e. Establish local background for radium-226 and radium-228 from four soil samples taken on the property at points where the gamma exposure rates are lowest plus eight soil samples taken off-site, but in the immediate vicinity, of the parking lot.
- f. Transport and dispose of all characterized or identified hazardous substances, pollutants, wastes, or contaminants at a RCRA/CERCLA/IDNS-approved disposal facility in accordance with the U.S. EPA off-site policy.
- g. Conduct off-site surveying and sampling as necessary and, at a minimum, implement the standards of 40 Code of Federal Regulations ("CFR") 192, if deemed necessary should contamination be discovered beyond current site boundaries.

h. Backfill all excavations with suitable material, and if soil, test borrow source for radioactivity and other pertinent characteristics in 40 CFR Part 261.

3.1 Work Plan and Implementation

Within 15 calendar days after the effective date of this Order, the Respondents shall submit to U.S. EPA for approval a draft Work Flan for performing the removal activities set forth above. The draft Work Plan shall provide a description of, and an expeditious schedule for, the activities required by this Order.

U.S. EPA may approve, disapprove, require revisions to, or modify the draft Work Plan. If U.S. EPA requires revisions, Respondents shall submit a revised draft Work Plan within 7 business days of notification. Respondents shall implement the Work Plan as finally approved in writing by U.S. EPA in accordance with the schedule approved by U.S. EPA. Once approved, or approved with modifications, the Work Plan, the schedule, and any subsequent modifications shall be fully enforceable under this Order. Respondents shall notify U.S. EPA at least 48 hours prior to performing any on-site work pursuant to the U.S. EPA approved work plan.

Respondents shall not commence or undertake any removal actions at the Site without prior U.S. EPA approval.

3.2 <u>Health and Safety Plan</u>

Within 15 calendar days after the effective date of this Order, the Respondents shall submit a plan for U.S. EPA review and comment that ensures the protection of the public health and safety during performance of on-site work under this Order. This plan shall with applicable Occupational Safety and comply Administration (OSHA) regulations found at 29 CFR Part 1910. U.S. EPA determines it is appropriate, the plan shall also include contingency planning. Respondents shall incorporate all changes to the plan recommended by U.S. EPA, and implement the plan during the pendency of the removal action.

3.3 Quality Assurance and Sampling

All sampling and analyses performed pursuant to this Order shall conform to U.S. EPA direction, approval, and guidance regarding sampling, quality assurance/quality control (QA/QC), data validation, and chain of custody procedures. Respondents shall ensure that the laboratory used to perform the analyses participates in a QA/QC program that complies with U.S. EPA guidance. Upon request by U.S. EPA, Respondents shall have such a laboratory analyze samples submitted by U.S. EPA for quality assurance monitoring. Respondents shall provide to U.S. EPA the quality assurance/quality control procedures followed by all sampling teams and laboratories performing data collection and/or

analysis. Respondents shall also ensure provision of analytical tracking information consistent with OSWER Directive No. 9240.0-2B, "Extending the Tracking of Analytical Services to PRP-Lead Superfund Sites."

Upon request by U.S. EPA, Respondents shall allow U.S. EPA or its authorized representatives to take split and/or duplicate samples of any samples collected by Respondents or their contractors or agents while performing work under this Order. Respondents shall notify U.S. EPA not less than 3 business days in advance of any sample collection activity. U.S. EPA shall have the right to take any additional samples that it deems necessary.

3.4 Reporting

Respondents shall submit a monthly written progress report to U.S. EPA concerning activities undertaken pursuant to this Order, beginning 30 calendar days after the date of U.S. EPA's approval of the Work Plan, until termination of this Order, unless otherwise directed by the OSC. These reports shall describe all significant developments during the preceding period, including the work performed and any problems encountered, analytical data received during the reporting period, and developments anticipated during the next reporting period, including a schedule of work to be performed, anticipated problems, and planned resolutions of past or anticipated problems.

Any Respondent that owns any portion of the Site, and any successor in title shall, at least 30 days prior to the conveyance of any interest in real property at the Site, give written notice of this Order to the transferee and written notice of the proposed conveyance to U.S. EPA and the State. The notice to U.S. EPA and the State shall include the name and address of the transferee. The party conveying such an interest shall require that the transferee will provide access as described in Section V.4 (Access to Property and Information).

3.5 Final Report

Within 60 calendar days after completion of all removal actions required under this Order, the Respondents shall submit for U.S. EPA review a final report summarizing the actions taken to comply with this Order. The final report shall conform to the requirements set forth in Section 300.165 of the NCP. The final report shall also include a good faith estimate of total costs incurred in complying with the Order, a listing of quantities and types of materials removed, a discussion of removal and disposal options considered for those materials, a listing of the ultimate destinations of those materials, a presentation of the analytical results of all sampling and analyses performed, and accompanying appendices containing all relevant documentation generated during the removal action (e.g., manifests, invoices, bills, contracts, and permits).

The final report shall also include the following certification signed by a person who supervised or directed the preparation of that report:

Under penalty of law, I certify that, to the best of my knowledge, after appropriate inquiries of all relevant persons involved in the preparation of this report, the information submitted is true, accurate, and complete.

4. Access to Property and Information

Respondents shall provide or obtain access as necessary to the Site and all appropriate off-site areas, and shall provide access to all records and documentation related to the conditions at the Site and the activities conducted pursuant to this Order. Such access shall be provided to U.S. EPA employees, contractors, agents, consultants, designees, representatives, and State of Illinois representatives. These individuals shall be permitted to move freely at the Site and appropriate off-site areas in order to conduct activities which U.S. EPA determines to be necessary. Respondents shall submit to U.S. EPA, upon request, the results of all sampling or tests and all other data generated by Respondents or their contractors, or on the Respondents' behalf during implementation of this Order.

Where work under this Order is to be performed in areas owned by or in possession of someone other than Respondents, Respondents shall obtain all necessary access agreements within 14 calendar days after the effective date of this Order, or as otherwise specified in writing by the OSC. Respondents shall immediately notify U.S. EPA if, after using their best efforts, they are unable to obtain such agreements. Respondents shall describe in writing their efforts to obtain access. U.S. EPA may then assist Respondents in gaining access, to the extent necessary to effectuate the response activities described herein, using such means as U.S. EPA deems appropriate.

5. Record Retention, Documentation, Availability of Information

Respondents shall preserve all documents and information, in their possession or the possession of their contractors, subcontractors or representatives, relating to work performed under this Order, or relating to the hazardous substances found on or released from the Site, for six years following completion of the removal actions required by this Order. At the end of this six year period and at least 60 days before any document or information is destroyed, Respondents shall notify U.S. EPA that such documents and information are available to U.S. EPA for inspection, and upon request, shall provide the originals or copies of such documents and information to U.S. EPA. In addition, Respondents shall provide documents and information retained under this Section at any time before expiration of the six year period at the written request of U.S. EPA.

6. Off-Site Shipments

All hazardous substances, pollutants or contaminants removed offsite pursuant to this Order for treatment, storage or disposal shall be treated, stored, or disposed of at a RCRA/CERCLA/IDNSapproved disposal facility in compliance, as determined by U.S. EPA, with the U.S. EPA Off-Site Rule, 40 CFR § 300.440, 58 Federal Register 49215 (Sept. 22, 1993).

7. Compliance With Other Laws

All actions required pursuant to this Order shall be performed in accordance with all applicable local, state, and federal laws and regulations except as provided in CERCLA Section 121(e) and 40 CFR Section 300.415(i). In accordance with 40 CFR Section 300.415(i), all on-site actions required pursuant to this Order shall, to the extent practicable, as determined by U.S. EPA, considering the exigencies of the situation, attain applicable or relevant and appropriate requirements under federal environmental or state environmental or facility siting laws.

8. Emergency Response and Notification of Releases

If any incident, or change in Site conditions, during the activities conducted pursuant to this Order causes or threatens to cause an additional release of hazardous substances from the Site or an endangerment to the public health, welfare, or the environment, the Respondents shall immediately take all appropriate action to prevent, abate or minimize such release, or endangerment caused or threatened by the release. Respondents shall also immediately notify the OSC or, in the event of his/her unavailability, shall notify the Regional Duty Officer, Emergency Response Branch, Region 5 at (312) 353-2318, of the incident or Site conditions.

Respondents shall submit a written report to U.S. EPA within 7 business days after each release, setting forth the events that occurred and the measures taken or to be taken to mitigate any release or endangerment caused or threatened by the release and to prevent the reoccurrence of such a release. Respondents shall also comply with any other notification requirements, including those in CERCLA Section 103, 42 U.S.C. § 9603, and Section 304 of the Emergency Planning and Community Right-To-Know Act, 42 U.S.C. § 11004.

VI. AUTHORITY OF THE U.S. EPA ON-SCENE COORDINATOR

The OSC shall be responsible for overseeing the implementation of this Order. The OSC shall have the authority vested in an OSC by the NCP, including the authority to halt, conduct, or direct any work required by this Order, or to direct any other response action undertaken by U.S. EPA or Respondents at the Site. Absence of the OSC from the Site shall not be cause for stoppage of work unless specifically directed by the OSC.

U.S. EPA and Respondents shall have the right to change their designated OSC or Project Coordinator. U.S. EPA shall notify the Respondents, and Respondents shall notify U.S. EPA, as early as possible before such a change is made, but in no case less than 24 hours before such a change. Notification may initially be made orally, but shall be followed promptly by written notice.

VII. PENALTIES FOR NONCOMPLIANCE

Violation of any provision of this Order may subject Respondents to civil penalties of up to \$25,000 per violation per day, as provided in Section 106(b)(1) of CERCLA, 42 U.S.C. § 9606(b)(1).

Respondents may also be subject to punitive damages in an amount up to three times the amount of any cost incurred by the United States as a result of such violation, as provided in Section 107(c)(3) of CERCLA, 42 U.S.C. § 9607(c)(3). Should Respondents violate this Order or any portion hereof, U.S. EPA may carry out the required actions unilaterally, pursuant to Section 104 of CERCLA, 42 U.S.C. § 9604, and/or may seek judicial enforcement of this Order pursuant to Section 106 of CERCLA, 42 U.S.C. § 9606.

VIII. REIMBURSEMENT OF COSTS

Respondents shall reimburse U.S. EPA, upon written demand, for all response costs incurred by the United States in overseeing Respondents' implementation of the requirements of this Order. U.S. EPA may submit to Respondents on a periodic basis a bill for all response costs incurred by the United States with respect to this Order. U.S. EPA's Itemized Cost Summary, or such other summary as certified by U.S. EPA, shall serve as the basis for payment.

Respondents shall, within 30 days of receipt of the bill, remit a cashier's or certified check for the amount of those costs made payable to the "Hazardous Substance Superfund," to the following address:

U.S. Environmental Protection Agency Superfund Accounting P.O. Box 70753 Chicago, Illinois 60673

Respondents shall simultaneously transmit a copy of the check to the Director, Superfund Division, U.S. EPA Region 5, 77 West Jackson Blvd., Chicago, Illinois, 60604-3590. Payments shall be

designated as "Response Costs - Lindsay Light II Site" and shall reference the payors' names and addresses, the U.S. EPA site identification number (YT), and the docket number of this Order.

Interest at a rate established by the Department of the Treasury pursuant to 31 U.S.C. § 3717 and 4 CFR § 102.13 shall begin to accrue on the unpaid balance from the day after the expiration of the 30 day period notwithstanding any dispute or an objection to any portion of the costs.

IX. RESERVATION OF RIGHTS

Nothing herein shall limit the power and authority of U.S. EPA or the United States to take, direct, or order all actions necessary to protect public health, welfare, or the environment or to prevent, abate, or minimize an actual or threatened release of hazardous substances, pollutants or contaminants, or hazardous or solid waste on, at, or from the Site. Further, nothing herein shall prevent U.S. EPA from seeking legal or equitable relief to enforce the terms of this Order. U.S. EPA also reserves the right to take any other legal or equitable action as it deems appropriate and necessary, or to require the Respondents in the future to perform additional activities pursuant to CERCLA or any other applicable law.

X. OTHER CLAIMS

By issuance of this Order, the United States and U.S. EPA assume no liability for injuries or damages to persons or property resulting from any acts or omissions of Respondents. The United States or U.S. EPA shall not be a party or be held out as a party to any contract entered into by the Respondents or their directors, officers, employees, agents, successors, representatives, assigns, contractors, or consultants in carrying out activities pursuant to this Order.

This Order does not constitute a pre-authorization of funds under Section 111(a)(2) of CERCLA, 42 U.S.C. § 9611(a)(2).

Nothing in this Order constitutes a satisfaction of or release from any claim or cause of action against the Respondents or any person not a party to this Order, for any liability such person may have under CERCLA, other statutes, or the common law, including but not limited to any claims of the United States for costs, damages and interest under Sections 106(a) or 107(a) of CERCLA, 42 U.S.C. §§ 9606(a), 9607(a).

XI. MODIFICATIONS

Modifications to any plan or schedule may be made in writing by the OSC or at the OSC's oral direction. If the OSC makes an cral modification, it will be memorialized in writing within 7 business days; however, the effective date of the modification shall be the date of the OSC's oral direction. The rest of the Order, or any other portion of the Order, may only be modified in writing by signature of the Director, Superfund Division, Region 5.

If Respondents seek permission to deviate from any approved plan or schedule, Respondents' Project Coordinator shall submit a written request to U.S. EPA for approval outlining the proposed modification and its basis.

No informal advice, guidance, suggestion, or comment by U.S. EPA regarding reports, plans, specifications, schedules, or any other writing submitted by the Respondents shall relieve Respondents of their obligations to obtain such formal approval as may be required by this Order, and to comply with all requirements of this Order unless it is formally modified.

XII. NOTICE OF COMPLETION

After submission of the Final Report, Respondents may request that U.S. EPA provide a Notice of Completion of the work required by this Order. If U.S. EPA determines, after U.S. EPA's review of the Final Report, that all work has been fully performed in accordance with this Order, except for certain continuing obligations required by this Order (e.g., record retention), U.S. EPA will provide written notice to the Respondents. If U.S. EPA determines that any removal activities have not been completed in accordance with this Order, U.S. EPA will notify the Respondents, provide a list of the deficiencies, and require that Respondents modify the Work Plan to correct such deficiencies. The Respondents shall implement the modified and approved Work Plan and shall submit a modified Final Report in accordance with the U.S. EPA notice. Failure to implement the approved modified Work Plan shall be a violation of this Order.

XIII. ACCESS TO ADMINISTRATIVE RECORD

The Administrative Record supporting these removal actions is available for review during normal business hours in the U.S. EPA Record Center, Region 5, 77 W. Jackson Blvd., Seventh Floor, Chicago, Illinois. Respondents may contact Nancy-Ellen Zusman, Assistant Regional Counsel, at (312) 886-5825 to arrange to review the Administrative Record. An index of the Administrative Record is attached to this Order.

XIV. OPPORTUNITY TO CONFER

Within 3 business days after receipt of this Order, Respondents may request a conference with U.S. EPA. Any such conference shall be held within 5 business days from the date of the request, unless extended by agreement of the parties. At any conference held pursuant to the request, Respondents may appear in person or be represented by an attorney or other representative.

If a conference is held, Respondents may present any information, arguments or comments regarding this Order. Regardless of whether a conference is held, Respondents may submit any information, arguments or comments (including justifications for any assertions that the Order should be withdrawn against a Respondent), in writing to U.S. EPA within 2 business days following the conference, or within 7 business days of receipt of the Order if no conference is requested. This conference is not an evidentiary hearing, does not constitute a proceeding to challenge this Order, and does not give Respondents a right to seek review of this Order. Requests for a conference shall be directed to Nancy-Ellen Zusman, Assistant Regional Counsel, at (312) 886-5825. Written submittals shall be directed as specified in Section V.2 of this Order.

XV. SEVERABILITY

If a court issues an order that invalidates any provision of this Order or finds that Respondents have sufficient cause not to comply with one or more provisions of this Order, Respondents shall remain bound to comply with all provisions of this Order not invalidated by the court's order.

XVI. EFFECTIVE DATE

This Order shall be effective 10 business days following issuance unless a conference is requested as provided herein. If a conference is requested, this Order shall be effective 5 business days after the day of the conference.

IN THE MATTER OF:

LINDSAY LIGHT II SITE CHICAGO, ILLINOIS

IT IS SO ORDERED

BY:

William E. Muno, Director

Superfund Division

United States

Environmental Protection Agency

Region 5

DATE: 6/6/76

ADMINISTRATIVE RECORD FOR LINDSAY LIGHT II CHICAGO, ILLINOIS

> UPDATE #3 JUNE 3, 1996

DATE	AUTHOR	RECIPIENT	TITLE/DESCRIPTION	PAGES
07/26/95	STS Consultants Ltd.	U.S. EPA	The Chicago Dock & Canal Trust Report for Characterization Investigation: Gamma Radiation Survey, Lindsay Light II Site, Chicago, IL w/Attachments A-E (3 Volumes)	1324

ADMINISTRATIVE RECORD FOR LINDSAY LIGHT II CHICAGO, ILLINOIS

UPDATE #2 (REVISED) APRIL 1, 1996

DATE	AUTHOR	RECIPIENT	TITLE/DESCRIPTION	PAGES
04/22/96	Simon, V., U.S. EPA	Muno, W., U.S. EPA	Action Memorandum: Determination of Threat to Public Health and the Environment at the Lindsay Light II Site, Chicago, IL	40

ADMINISTRATIVE RECORD FOR LINDSAY LIGHT II CHICAGO, ILLINOIS

UPDATE #1 SEPTEMBER 18, 1995

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10/05/95	Simon, V., U.S. EPA	Muno, W., U.S. EPA	Action Memorandum: Determination of Threat to Public Health or the Environment at the Lindsay Light II Site	22

ADMINISTRATIVE RECORD FOR LINDSAY LIGHT II SITE CHICAGO, ILLINOIS

ORIGINAL May 2, 1994

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LIABILITY FILE INDEX

- 1. Minutes from meetings of Lindsay Light II Company. 1922, 1924, 1925, 1929, 1931.
- 2. Chicago Tribune article. July 1993.
- 3. 104(e) response from Kerr-McGee Corporation. January 3, 1994.
- 4. Press release issued by The Chicago Dock & Canal Trust. July 6, 1993.
- 5. Enforcement Confidential Addendum from Action Memo. April 1996.

LIST OF RESPONDENTS RECEIVING UNILATERAL ADMINISTRATIVE ORDER LINDSAY LIGHT II SITE

Kerr-McGee Chemical Corporation c/o Richard A. Meserve, Esq. Covington & Burling 1201 Pennsylvania Avenue, N.W. P.O. Box 7566 Washington, D.C. 20044-7566

Chicago Dock & Canal Trust c/o Vincent S. Oleskiewicz, Esq. Baker & McKenzie One Prudential Plaza 130 East Randolph Drive Chicago, Illinois 60601



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5 77 WEST JACKSON BOULEVARD CHICAGO, IL 60604-3590

MAR 2 9 2000

Lindsay Light II Site/RV3 North Columbus Drive

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Re:

Lindsay Light II Site/RV3 North Columbus Drive

Chicago, Illinois

Dear Sirs:

Enclosed please find a First Amendment to the Unilateral Administrative Order issued by the United States Environmental Protection Agency (U.S. EPA) on June 6, 1996, under Section 106 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), as amended by the Superfund Amendments and Reauthorization Act of 1986, 42 U.S.C. Section 9601, et seq.

If you have any questions regarding the Amendment, feel free to contact Mary Fulghum, Assistant Regional Counsel at (312) 886-4683, Verneta Simon, On-Scene Coordinator at (312) 886-3601, or Fred Micke, On-Scene Coordinator at (312) 886-5123.

Sincerely yours,

William E. Muno, Director

Superfund Division

Enclosure

cc: Thomas Skinner

Illinois Environmental Protection Agency, Division of Land Pollution Control 1021 North Grand Avenue East, Springfield, IL 62702

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY Region 5

IN THE MATTER OF:) Docket No. V-W-96-C-353
Lindsay Light II Site/) ADMINISTRATIVE ORDER
(RV3 North Columbus Drive)) PURSUANT TO SECTION 106(a)
•) OF THE COMPREHENSIVE
) ENVIRONMENTAL RESPONSE,
Respondents:) COMPENSATION, AND
) LIABILITY ACT OF 1980,
River East Chicago L.L.C.) AS AMENDED, 42 U.S.C.
Kerr-McGee Chemical L.L.C.) §9606(a)
Grand Pier Center L.L.C.	,,

FIRST AMENDMENT TO ADMINISTRATIVE ORDER
PURSUANT TO SECTION 106(a)

OF THE COMPREHENSIVE ENVIRONMENTAL RESPONSE,
COMPENSATION, AND LIABILITY ACT OF 1980,
as amended, 42 U.S.C. §9606(a)

The Administrative Order ("Order"), U.S. Environmental Protection Agency ("U.S. EPA") Docket No. V-W-96-C-353, issued on June 6, 1996, under Section 106(a) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, 42 U.S.C. \$9606(a), is hereby modified as follows:

JURISDICTION AND GENERAL PROVISIONS Section, Page 1, 2nd
Paragraph, Sentence 1 of the Order shall be amended to read:

This Order pertains to property located at 316 East Illinois Street, Chicago, Illinois, and also to property directly across Columbus Drive known as RV3 North Columbus Drive, bearing the Cook County Assessor's Parcel Number 17 10 212 019 (bound by North Columbus Drive, East Grand Avenue, North St. Clair Street, and East Illinois Street), Chicago, Illinois (the "Lindsay Light II Site" or the "Site").

FINDINGS OF FACT Section, Page 2, Paragraph 1., Sentence 1 of the Order shall be amended to read:

The Lindsay Light II Site ("the Site" or "the Facility") is located at 316 East Illinois Street, and also at Parcel Number 17 10 212 019 (bound by North Columbus Drive, East Grand Avenue, North St. Clair Street, and East Illinois Street), Chicago, Cook County, Illinois.

FINDINGS OF FACT Section, Page 2, Paragraph 2. of the Order shall be amended to read:

In 1996, the 316 E. Illinois parcel was a parking lot operated by General Parking and owned by River East Chicago L.L.C. ("River East") (successor to Chicago Dock and Canal Trust). Grand Pier L.L.C ("Grand Pier") is the owner of the RV3 North Columbus Drive portion of the Site.

FINDINGS OF FACT Section, Page 3, Paragraph 10. of the Order shall be added to read:

From June 1996 until March 2000, Respondents River East and Kerr-McGee Chemical L.L.C. ("Kerr-McGee") implemented a site Health and Safety Plan; implemented site security measures, implemented an air monitoring program; performed removal of contamination until the cleanup criterion of 5 picoCuries per gram total radium (Radium-226 + Radium-228) over background was achieved; established local background for Radium-226 and Radium-228 from four soil samples taken on the property at points where the gamma exposure rates are lowest plus eight soil samples taken off-site; transported and disposed of characterized or identified hazardous substances, pollutants, wastes, or contaminants at a RCRA/CERCLA/IDNS-approved disposal facility in accordance with the U.S. EPA Off-Site Rule; conducted off-site surveying and sampling as necessary and backfilled all excavations with suitable material, and if soil, tested borrow source for radioactivity and other pertinent characteristics in 40 CFR Part 261.

FINDINGS OF FACT Section, Paragraph 11. of the Order shall be added to read:

A Right-of-Way Agreement was entered among Kerr-McGee, River East and the City of Chicago which restricts access to subsurface soils below the streets and sidewalks surrounding the 316 East Illinois Street property. The Agreement requires, among other tasks, that anyone seeking a permit to conduct work in the subsurface soils must conduct radiation surveillance and that the City must give U.S. EPA notice that a permit application has been made. The agreement also requires that the City provide notice to all utilities of the Right-of-Way Agreement.

FINDINGS OF FACT Section, Paragraph 12. of the Order shall be added to read:

On at least two occasions since the approval of the Right-Of-Way Agreement, however, the parties apparently failed to comply with express provisions that require radiation surveillance and notice to U.S. EPA that a permit was applied for. In January or February 2000, the City of Chicago removed two hydrants from the Illinois Street rightof-way without notifying U.S. EPA. On or about January 24, 2000, River East obtained a permit and began to install a block-long sewer along Illinois Street from Columbus Drive to McClurg Court. Neither the City nor River East notified U.S. EPA of any excavation in the Illinois Street Right-of-River East did not begin to conduct radiation surveillance until approximately ten days after it began the Illinois Street work. When radiation surveillance was instituted at the Illinois Street sewer project, four areas of elevated levels of radiation were discovered. U.S. EPA also surveyed off-site landfills that received material from the sewer excavation. One landfill potentially received radioactive material.

FINDINGS OF FACT Section, Paragraph 13. of the Order shall be added to read:

On February 29, 2000, U.S. EPA discovered elevated levels of radioactive materials at the Grand Pier development, which is located on the RV3 North Columbus Drive parcel directly across Columbus Drive from the 316 East Illinois Street property. Since the discovery of the RV3 North Columbus Drive contamination, U.S. EPA has worked with Grand Pier, Kerr-McGee and River East to implement the requirements of the existing Lindsay Light II Unilateral Administrative Order at the Grand Pier property and at the six off-site landfills that accepted potentially radioactive materials from the Grand Pier property.

CONCLUSIONS OF LAW AND DETERMINATIONS Section, Page 3, Paragraph 4., Sentences 1 and 2 of the Order shall be amended to read:

Respondents River East and Grand Pier are the present owners of the Lindsay Light II Site, as defined by Section 101(20) of CERCLA, 42 U.S.C. § 9601(20). Respondent Kerr-McGee is a person who is the corporate successor of the Lindsay Light Company.

CONCLUSIONS OF LAW AND DETERMINATIONS Section, Page 4, Paragraph 6.a., line 4 of the Order shall be amended to include:

This factor is also present at the Site due to the presence of elevated gamma ray readings that were documented on February 29, 2000, to be as high as 1,000,000 counts per minute ("cpm"). In an uncontaminated area of the Site, the count rate was about 7,000 cpm. The clean-up criterion for the Lindsay Light II Site is 7.1 picoCuries per gram (pCi/g) which equates to 19,726 cpm. The highest gamma exposure rate reading measured at the Lindsay Light II Site/RV3 North Columbus Drive was approximately 1,300 microRoentgen per hour (μ R/hr). The background level for this Site was approximately 8 μ R/hr.

CONCLUSIONS OF LAW AND DETERMINATIONS Section, Page 5, Paragraph 6.b., of the Order shall have added:

On or about March 1, 2000, Grand Pier collected soil samples from its property. The highest sample result as of March 23, 2000 was 1,732 picoCuries per gram ("pCi/g") for total radium (Ra-226 + Ra-228). The clean-up level applied to the Site property directly across Columbus Drive at 316 East Illinois Street was 7.1 pCi/g total radium, including total radium background of 2.1 pCi/g. The sample analyses showed that the radioactive component was thorium. is a chain of 11 radionuclides beginning with thorium-232 and ending with non-radioactive lead 208. This chain emits gamma rays, X-rays, alpha particles and beta particles. Gamma rays and X-rays are penetrating photons that are an external exposure hazard. Photons can penetrate the skin and expose interior organs. Alpha particles are helium nuclei that are an ingestion and inhalation hazard. particles are electrons that are principally an ingestion and inhalation hazard, but in high concentrations, might be a skin hazard.

CONCLUSIONS OF LAW AND DETERMINATIONS Section, Page 5, Paragraph 6.c., of the Order shall have added:

Given that U.S. EPA and Respondents detected contamination at the 316 E. Illinois and RV North Columbus Drive portions of the Lindsay Light II Site and in the adjacent streets, there is reason to suspect additional contamination may exist on other properties surrounding the Site. U.S.EPA will determine the boundaries of the contamination, and will require Respondents to implement additional controls, if U.S. EPA determines additional institutional controls are necessary.

ORDER Section, Page 7, 1st Paragraph, Sentences 1 and 2 of the Order shall be amended to read:

The U.S. EPA has designated Verneta Simon and/or Fred Micke of the Emergency Response Branch, Region 5, as its On-Scene Coordinators ("OSCs"). Respondents shall direct all submissions required by this Order to the OSCs at U.S. EPA, 77 West Jackson Boulevard, SE-5J, Chicago, Illinois, 60604-3590, by certified or express mail. Respondents shall also send a copy of all submissions to Mary Fulghum, Assistant Regional Counsel, 77 West Jackson Boulevard, C-14J, Chicago, Illinois, 60604-3590.

ACCESS TO ADMINISTRATIVE RECORD Section, Page 14, 1st Paragraph, 2nd Sentence of the Order shall be amended to read:

Respondents may contact Mary Fulghum, Assistant Regional Counsel, at (312) 886-4683 to arrange review of the Administrative Record.

OPPORTUNITY TO CONFER Section, Page 15, 2nd Paragraph, 4th Sentence of the Order shall be amended to read:

Requests for a conference shall be directed to Mary Fulghum, Assistant Regional Counsel, at (312) 886-4683.

This First Amendment to the Lindsay Light II Site Administrative Order is hereby incorporated into the Order as if it were originally part of the Order; all terms, conditions, and stipulations of the Order shall apply to this First Amendment.

By:

William E. Muno, Director

Superfund Division

U.S. Environmental Protection Agency

Region 5

March 29

LINDSAY LIGHT II SITE/RV3 NORTH COLUMBUS DRIVE List of Respondents Receiving First Amendment to UAO Docket No. V-W-96-C-353

River East Chicago L.L.C. c/o Peter Gillespie, Esq. Baker & McKenzie One Prudential Plaza 130 East Randolph Drive Chicago, IL 60601

Kerr-McGee Chemical L.L.C. c/o James T. Smith, Esq. Covington & Burling 1201 Pennsylvania Avenue P.O. Box 7566 Washington, D.C. 20044-7566

Grand Pier Center L.L.C. c/o Michael P. Rissman, Esq. Mayer, Brown & Platt 190 South LaSalle Street Chicago, Illinois 60603-3441 Docket Analyst, ORC (C-14J) Mary Fulghum, ORC (C-14J) Jose DeLeon, ORC (C-14J) Verneta Simon, OSC (SE-5J) Fred Micke, OSC (SE-5J) Larry Jensen, RS-III (SE-5J) John Maritote, EESS (SE-5J) Debbie Regel, EESS (SE-5J) Fushi Cai, EESS (SE-5J)

Toni Lesser, Public Affairs (P-19J) w/out attachments

Michael T. Chezik, Department of Interior Tony Audia, PAAS (MF-10J)

Records Center (SMR-7J)

ERB Read File

U.S. ENVIRONMENTAL PROTECTION AGENCY

/.77. 0 4 2000

OFFICE OF REGIONAL COUNSEL



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5 77 WEST JACKSON BOULEVARD CHICAGO IL 60604:3590

REPLY TO THE ATTENTION OF

MEMORANDUM

DATE: MAR () 1 2001

SUBJECT: ACTION MEMORANDUM AMENDMENT- Determination of Presence of Off-

Site Thorium Contaminated Associated with the Lindsay Light II

Site/(OU3/North McClurg Court) and Determination of a Threat to Public Health

or the Environment, Chicago, Cook County, Illinois (Site Spill ID #YT)

FROM: Verneta Simon and Fred Micke, Un-Scene Coordinators

Emergency Response Branch - Section III

TO: William E. Muno, Director

Superfund Division

I. PURPOSE

The purpose of this Lindsay Light II Action Memorandum Amendment is to document the presence of off-site thorium contamination associated with the Lindsay Light II Site and the determination of a threat to public health and the environment. The off-site contamination is present in subsurface soils in the vacant lot located at 341 E. Ohio, Chicago, Illinois. The vacant lot is across the street and directly north of the Lindsay Light II Site that is located at 316 E. Illinois Street, Chicago, Illinois. This is an amendment to the April 22, 1996 Lindsay Light II Action Memorandum that documented the threat to public health and the environment posed by the presence of subsurface thorium contamination at the Lindsay Light II site. The Lindsay Light II Action Memoranda dated July 11, 1994, October 5, 1995, April 22, 1996, September 22, 1999, and March 28, 2000 and their administrative records are fully incorporated by reference into this document.

This vacant lot containing off-site thorium contamination is commonly known as the Grand. McClurg, Ohio site or GMO site (see Figure 1). For accounting purposes, U.S. EPA designated this lot as Lindsay Light II Site/(OU3/North McClurg Court). The owner of the site is the Teachers' Retirement System of the State of Illinois. In April 2000, a potential purchaser of the site conducted limited radiological sampling and detected the thorium at levels that may present an imminent and substantial endangerment to human health and the environment. The property is presently a vacant parking lot that is to be developed into a mixed-used high-rise building.

II. SITE CONDITIONS AND BACKGROUND

CERCLIS ID # ILD 0000002212 This Site is not on the National Priorities List (NPL).

Beginning in about 1904 and continuing through the early 1930s, the Lindsay Light and Chemical Company manufactured gaslight mantles impregnated with thorium in the City of Chicago. The Lindsay Light operations originated at 22 W. Hubbard and later moved to 161 E. Grand and at 316 E. Illinois in Chicago, Illinois. The 316 E. Illinois address was the location where thorium was extracted from radioactive ores. The Hubbard and Grand sites are believed to be where thorium was used to manufacture mantles. These Lindsay Light refining and manufacturing processes created radioactive wastes that were disposed of in undetermined locations. Pursuant to an Administrative Order by Consent (AOC) authorized by Sectic 106 of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) dated January 27, 1994, the Lindsay Light II property owner, Chicago Dock & Canal Trust ("Chicago Dock") characterized the thorium contamination present within the Lindsay Light II site at 316 East Illinois. On June 6, 1996, U.S. EPA issued a Unilateral Administrative Order, Docket No. V-W-96-C-353, (the "UAO"). The UAO required the Respondents, Kerr McGee Corporation and Chicago Dock, to remove thorium contaminated materials from the Lindsay Light II site and to conduct off-site surveying and sampling as necessary and, at a minimum implement the standards of 40 CFR 192 if deemed necessary should contamination be discovered beyond current site boundaries. In early February 2000, contractors for the City of Chicago conducting a sewer line replacement project along Illinois Street adjacent to the Lindsay Light II site discovered off-site thorium contamination. Later that month, U.S. EPA discovered thorium contamination at the Grand Pier L.L.C. development across the street and directly west of the Lindsay Light II site. On March 29, 2000, U.S. EPA issued the First Amendment to the UAO that amended the Lindsay Light II Site definition to include property directly west of and across the street from the Site, and which was designated as RV3/North Columbus Drive.

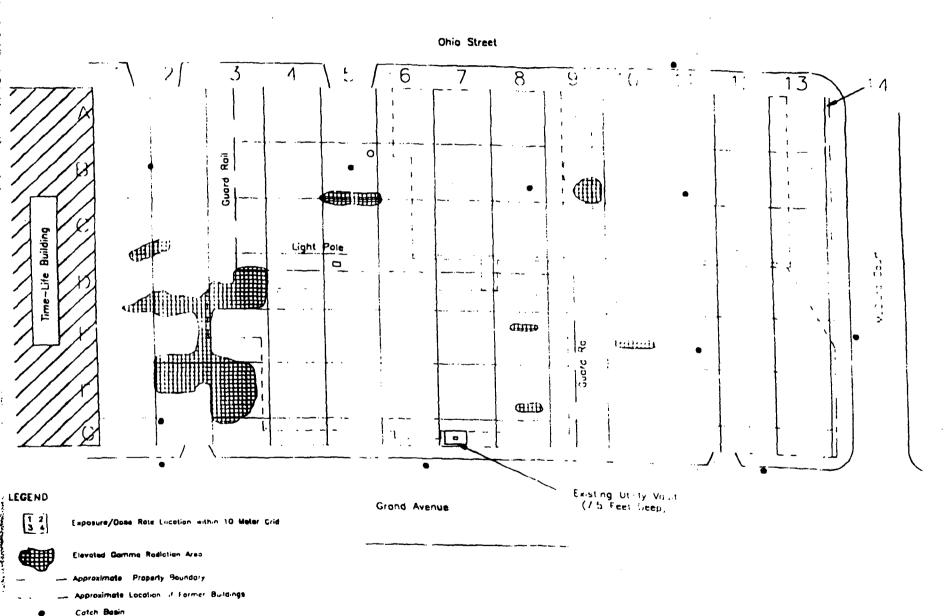
Please refer to the previous Action Memoranda dated July 11, 1994, October 5, 1995, April 22, 1996, September 22, 1999, and March 28, 2000 for a description of site conditions and background.

From 1947 to 1988, the GMO property that is the subject of this Amendment was the headquarters and research center for Velsicol Corporation and later Sandoz Limited. In 1988, the buildings were razed and the land was used for a parking lot. U.S. EPA has no information that Chicago Dock formerly owned the GMO property.

On May 31, 2000, TRS informed U.S. EPA that elevated levels of radioactive materials had been detected at the GMO property. This information was supported by the U.S. EPA Scanner Van radiation survey of the GMO property and by a gamma survey meter walkover by U.S. EPA staff. Following this disclosure, the property owner, Kerr-McGee L.L.C. and U.S. EPA met several times to discuss the extent of the contamination on the GMO property and make

preparations for its cleanup. Also, a letter was sent to the Potential Responsible Parties (PRPs) on July 13, 2000. This letter addressed the need to prepare a Work Plan for a Site Cleanup in accordance with the June 6, 1996 UAO..

An environmental justice (EJ) analysis was performed for this site and is contained in Attachment 7. In Illinois, the low-income percentage is 27 % and the minority percentage is 25 %. To meet EJ concern criteria, the area within 1 mile of this property must have a population that's twice the state low income percentage or/and twice that state minority percentage. That is, the area must be at least 54% low-income and/or 50% minority. At this site, the low-income percentage is 10.05 % and minority percentage is 19.64%, as determined by Arcview. Therefore, this site does not meet the region's EJ criteria based on the demographics as identified in "Region 5 Interim Guidelines for Identifying and Addressing a Potential EJ Case, June 1998".



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III. THREAT TO PUBLIC HEALTH OR THE ENVIRONMENT, AND STATUTORY AND REGULATORY AUTHORITIES

Conditions at the Lindsay Light II Site/(OU3/North McClurg Court) may pose an imminent and substantial endangerment to public health or welfare or the environment, based upon factors set forth in the National Contingency Plan (NCP), 40 CFR 300.415 (b)(2). These factors include:

a) actual or potential exposure to nearby populations, animals, or the food chain from hazardous substances or pollutants or contaminants:

This factor is present at the site due to the presence of elevated radiation readings that were documented in the May 2000 report submitted by the owner of the property. A copy of this report is contained in the Administrative Record. Readings as high as 95,000 counts per minute with a Ludlum Model 2221 Sodium Iodide Detector. Counts per a minute in an uncontaminated area for the Ludlum detector are generally about 7,000 counts per minute in this area.

The highest readings found on the property correspond to a cancer risk of 1x 10⁻⁵ if persons are stationed over the contaminated areas for 22.5 minutes per day for a standard 250 day work year.

In addition, TRS, the property owner, intends to commence cleanup activities at the beginning of the year 2001 construction season which is approximately March 1, 2001. The removal of the asphalt covering the property and excavation activities also may result in inhalation, ingestion or direct contact contamination from thorium contaminants by workers or the public.

b) high levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface, that may migrate:

Soil concentrations as high as 3020 picocuries per gram (pCi/g) for thorium-232 and 2880 pCi/g for thorium-228, both including background, were measured in site soils. This would correspond, on average, to about 2950 pCi/g for radium-228. Radium-226 levels were not reported but would be non-zero. Thus, the total radium concentration in soil (radium-226 + radium-228) would, minimally, be on the order of 2950 pCi/g. For comparison purposes, the clean-up level applied to the site directly south of the Site was 7.1 pCi/g total radium, including background.

The property owner, intends to commence cleanup activities at the beginning of the year 2001 construction season which is approximately March 1, 2001. The removal of the asphalt covering the property and excavation activities may expose thorium contaminated soil. If soils are not managed and disposed of in accordance with state and federal environmental requirements, uncontrolled exposure to and uncontrolled dispersal of radioactive materials might occur.

c) other situations or factors which may pose threats to public health or welfare or the environment:

Prior to the March 29, 2000 amendment to the 1996 UAO, thorium contaminated soils from the Grand Pier property were improperly excavated and disposed of at a landfill 35 miles from the Lindsay Light II site. If the thorium contamination present at the GMO property is not removed in accordance with the 1996 UAO provisions, thorium contaminated soils may not be properly managed and may result in excess radiation exposure to workers and the public and the spreading of contaminated soil beyond the site boundaries.

IV. ENDANGERMENT DETERMINATION

Given the nature of the Site, the nature of the contaminants - radioactive materials that —use external exposure, inhalation, ingestion, and direct contact hazards, as described in Sections II and III, the actual or threatened releases of hazardous substances from this Site, if not addressed by implementing the response action described in this Action Memorandum Amendment, may pose an imminent and substantial endangerment to public health, or welfare, or the environment due to these radioactive materials.

V. PROPOSED ACTIONS AND ESTIMATED COSTS

Pursuant to the 1996 UAO as amended, the PRP will fully remediate the site until maximum protectiveness of the human health and the environment is achieved. This will involve at a minimum the following actions:

- 1) Develop a Work Plan for the radiological assessment of the site.
- 2) Develop and implement a site radiological health and safety plan.
- 3) Develop and implement an air radiological monitoring plan.
- 4) Develop and implement site security measures, including radiological surveillance at the perimeter of radiological exclusion zones.
- 5) Conduct land surveying to the extent necessary to establish a grid system to locate all property boundaries, special features (pipes, storage tanks, etc.), and sample locations.
- 6) Conduct off-site radiological surveillance, gamma count rate measurements and soil sampling as necessary and, at a minimum implement 40 CFR 192 if deemed necessary should contamination be discovered within current site boundaries.

- Place borings in critical locations (grid corners, high exposure rate areas, special features, etc.) for the purpose of measuring subsurface gamma count rate radiation levels. Measurements shall be recorded at each 6 inch depth until the natural soils are reached or gamma count rate radiation levels reach background, whichever is the greatest depth.
- 8) Collect soil samples from the borings and analyze for radionuclide identity and concentration and for RCRA characteristics. These results will then be used by the PRP to correlate subsurface radiation levels and radionuclide content, and to determine the disposal facility.
- 9) Conduct off-site radiological surveillance, gamma count rate measurements and soil sampling as necessary and, at a minimum implement 40 CFR 192 if deemed necessary should contamination be discovered beyond current site boundaries.
- 10) Based upon soil results, remove, transport and dispose of all characterized or identified hazardous substances, pollutants, wastes or contaminants at a RCRA/CERCLA approved disposal facility in accordance with the U.S. EPA offsite rule.
- 11) The soil clean-up criterion is 7.1 picoCuries per gram(pCi/g) total radium (Ra-226 + Ra-228) including background, unless analyses indicates the existence of additional contaminants, hazardous substances, pollutants or waste.

The OSC has begun planning for the provision of post-removal site control, consistent with the provisions of Section 300.415(k) of the NCP. However, the nature of future response actions should eliminate all exposure threats, which should minimize the need for on-site post-removal site control.

The response actions described in this memorandum directly address actual or threatened releases of hazardous substances, pollutants or contaminants at the facility which may pose an imminent and substantial endangerment to public health and safety, and to the environment. These response actions do not impose a burden on the affected property disproportionate to the extent to which that property contributes to the conditions being addressed.

Applicable or Relevant and Appropriate Requirements (ARARS)

All applicable or relevant and appropriate requirements (ARARS) of Federal law will be complied with to the extent practicable. In a letter dated November 25, 1995 the Illinois Department of Nuclear Safety (IDNS) reclassified the radioactive material found there from "source" material to 11(e)2 "by-product" material. See Lindsay Light II Administrative Record Update #4, Documents 1-4.

In accordance with the revised NCP. Section 300.825(a)(1), the response from the State to the request for ARARs was added to the administrative record for this site. See Lindsay Light II Administrative Record Update #4, Document #4.

VI. CHANGE IN THE SITUATION SHOULD ACTION BE DELAYED

Delayed or non-action may result in increased likelihood of external exposure, inhalation, ingestion or direct contact to human populations accessing and working on the site. Also, since there is no threshold for radiological risk, additional exposure to radiological materials will increase the cancer risk. Delay may increase the chance of spreading of contaminants beyond site boundaries.

VII. OUTSTANDING POLICY ISSUES

None.

IX. ENFORCEMENT

For administrative purposes, information concerning confidential enforcement strategy for this site is contained in the Enforcement Confidential Addendum.

X. RECOMMENDATION

This decision document represents the determination that the thorium contamination present at the GMO property is Lindsay Light II off-site contamination (Lindsay Light II Site/OU3 North McClurg Court), as defined in and subject to the Lindsay Light II Unilateral Administrative Order dated June 6, 1996. This decision document also represents the selected removal action for the Lindsay Light II Site/OU3/North McClurg Court), in Chicago, Illinois. This decision document was developed in accordance with CERCLA, as amended, and is not inconsistent with the NCP. This decision document is based upon the Administrative Record for this site. Conditions at the site meet the NCP Section 300.415(b)(2) criteria for a removal action.

APPROVE: _ DIVISION	Ruchard C Karl	DIRECTOR, SUPERFUND
DISAPPROVE:		DIRECTOR, SUPERFUND

Attachments: Enforcement Confidential Addendum

- 1. Action Memorandum dated March 28, 2000
- 2. Action Memorandum dated September 22, 1999
- 3. Right-of-Way Agreement
- 4. Action Memorandum dated April 22, 1996
- 5. Action Memorandum dated October 5, 1995
- 6. Action Memorandum dated July 11, 1994
- 7. Environmental Justice Analysis
- 8. Index to the Administrative Record

cc: Kevin Mould, USEPA, OERR,

Michael Chezik, U.S. Department of Interior

Tom Skinner, Director, Illinois Environmental Protection Agency, w/o enforcement addendum

Steve Davis, Illinois Department of Natural Resources, w/o enforcement addendum
Thomas W. Ortciger, Illinois Department of Nuclear Safety, w/o enforcement addendum
William F. Abolt, Commissioner Department of Environment, City of Chicago, w/o
enforcement addendum

bcc: R. Karl, SE-5J

B. Messenger, SE-5J

T. Lesser, P-19J, w/o enforcement addendum

EERB Read File (C. Beck)

ERB Site File (SF Record Center)

V. Simon, SE-5J

F. Micke, SE-5J

L. Jensen, SE-5J

M. Fulghum, C-14J

C. Martwick, C-14J

L. Nachowicz, SE-5J

L. Fabinski, ATSDA-4J, w/o enforcement addendum

^{*} Please note the reference to the Enforcement Addendum. The addendum contains enforcement sensitive information and is not for general distribution.



APPENDIX B

Work Plan (under separate cover)



The Work Plan is provided under separate cover.



APPENDIX C

Work Plan Change Correspondence with USEPA



June 25, 2002

Ms. Verneta Simon Mr. Fred Micke U. S. Environmental Protection Agency Region 5 77 W. Jackson Blvd., SE-5J Chicago, Illinois 60604

RE: Request for Removal Action Work Plan Change, 341 East Ohio Street Site, Chicago, Illinois -STS Project No. 1-25585-XI, Correspondence No. 090, Task 5000

Dear Ms. Simon and Mr. Micke:

The Removal Action Work Plan for the above-referenced site involves two phases of work. The first phase consists of removing the pavement and excavating all radiologically-impacted soil that is evident at that time. Phase 1, as proposed in the Removal Action Work Plan, is to be completed over the entire site, Areas 1, 2, 3 and 4. Following completion of Phase 1, the second phase will involve excavating all remaining fill soil in lifts 18 inches thick.

The requested change is to conduct Phase 2 in Area 1, at the southwest part of the site, before completing Phase 1 in Areas 2, 3 and 4. This will allow Area 1 to be backfilled and used for project operations (equipment storage, truck staging, etc.).

The specific Phase 2 work for clearing Area 1 would consist of the following:

- 1. All areas would be surveyed to document that the surface is below the 7.1 pCi/g cleanup threshold.
- 2. All concrete walls, footings, foundations, etc., would be removed and frisked clean as they are removed.
- 3. All steep side slopes, knobs and ridges within the areas excavated as part of Phase 1 will be graded to more gentle slopes, on the order of 3 or 4 horizontal to 1 vertical. That graded surface will be surveyed to identify any elevated radioactivity. Any area exhibiting elevated radioactivity will be excavated to clean limits, below 7.1 pCi/g.
- 4. The remainder of the fill will be screened as it is excavated in 18 inch lifts through to the natural sand soil. Records will be made of each lift and the measured radioactivity. USEPA signoff will be obtained upon completion of the lift excavations, at native sand, for each sub-area surveyed clean. Upon receipt of USEPA signoff, the area will be available to be backfilled.

We request USEPA approve this revision to the Removal Action Work Plan. Please contact Richard Berggreen, Project Coordinator, with any questions you may have.

Regards,

STS CONSULTANTS, LTD.

Richard G. Berggreen **Principal Geologist**

CC: Timothy Ramsey, Piper Rudnick



July 8, 2002

Mr. Fred Micke
Ms. Verneta Simon
U. S. Environmental Protection Agency
Region 5
77 W. Jackson Blvd., SE-5J
Chicago, Illinois 60604

RE: Work Plan Revision Request - STS Project No. 1-25585-XI, Correspondence No. 093

Dear Mr. Micke and Ms. Simon:

STS Consultants, Ltd. (STS) submitted a request June 25, 2002 to revise the Work Plan. The request included a change in sequence where Area 1 would be carried through Phase 1 (removal of all identified radiologically-impacted soil) and Phase 2 (excavation and screening of all fill soil in 18 inch lifts) before moving to Area 2. Further, we had requested that the Phase 2 work in Area 1 include flattening the slopes of the excavations left after Phase 1, to facilitate walkover surveys.

In response to our request, in a telephone call from Ms. Verneta Simon, we understand the request as proposed was denied. The objection was to the flattening of the slopes which might spread radiologically-impacted soil to unimpacted areas.

We therefore, are revising the change request to specify that no flattening of the slopes will be done. The 18 inch lift surveys will be performed as the fill is excavated without any grading.

The change request consists of only the sequence change, wherein Area 1 is taken through Phases 1 and 2 before progressing to Area 2. Based on our telephone conversation, we understand USEPA has no objection to this revision. Please confirm you concurrence in writing for our files.

Thank you for your consideration in this matter.

Regards,

STS CONSULTANTS, LTD.

Richard G. Berggreen, C.P.G.

Principal Geologist

cc: Timothy Ramsey, Piper Rudnick

2/3



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY REGION5 77 WEST JACKSON BOULEVARD CHICAGO, IL 60604-3590

REPLY TO THE ATTENTION OF:

JUL 1 8 2002

SE-5J

VIA FACSIMILE (847) 279-2510 & (312) 755-6022 AND U.S. MAIL

Mr. Richard Berggreen STS Consultants, Ltd. 750 Corporate Woods Parkway Vernon Hills, Illinois 60061

RE: 341 East Ohio Work Plan
Lindsay Light II Site/North McClurg Court

Dear Mr. Berggreen:

This letter is in response to your facsimile dated July 8, 2002 regarding written documentation for a verbal denial made by U. S. EPA for a work plan change proposed on June 25, 2002. On July 2, 2002, the following work plan change was denied:

3. All steep side slopes, knobs and ridges within the areas excavated as part of Phase 1 will be graded to more gentle slopes on the order of 3 or 4 horizontal to 1 vertical. That graded surface will be surveyed to identify and elevated radioactivity. Any area exhibiting elevated radioactivity will be excavated to clean limits below 7.1 picoCuries per gram (pCi/q).

This change was denied because this activity may mix together radioactive material above and below the cleanup level of 7.1 pCi/g, which is not an acceptable method of cleanup. Instead U.S. EPA requires that you excavate the steep slopes, knobs, etc. in 18 inch lifts. After determining that the 18 inch lift material does not exceed 7.1 pCi/g, this removed material can be

used as clean fill for slope or grading. The remainder of the work plan change requested in your June 25, 2002 facsimile to me, i.e., conducting Phase 2 work in Area 1 prior to completing Phase 1 work in Areas 2, 3, and 4 is approved. In addition, the sequencing of Phase 2 work, as proposed in your June 25, 2002 facsimile to me is approved with the following changes:

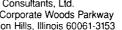
- 1. All areas would be surveyed to document that the surface is below 7.1 pCi/q cleanup threshold.
- 2. All concrete walls, footings, foundations, etc. would be removed and frisked clean as they are removed.
- 3. All steep side slopes, knobs and ridges, within the areas excavated as part of Phase 1 will be excavated in 18 inch lifts. After determining that the 18 inch lift material does not exceed 7.1 pCi/g, this removed material can be used as clean fill for slope or grading. Records will be made of each lift and measured radioactivity. U.S. EPA signoff will be obtained upon completion of the lift excavations, at native sand, for each sub-area surveyed clean. Upon receipt of U.S. EPA signoff, the area will be available to be backfilled.

If you have any questions regarding this correspondence, please contact me at (312) 886-3601 or Fred Micke, On-Scene Coordinator, at (312) 886-5123, or Larry Jensen, Senior Health Physicist, at (312) 886-5026.

Sincerely,

Verneta Simon

On-Scene Coordinator



voice 847-279-2500 847-279-2510 fax www.stsconsultants.com web



August 16, 2002

Mr. Fred Micke, On-Scene Coordinator Ms. Verneta Simon. On-Scene Coordinator U. S. Environmental Protection Agency Region 5 77 W. Jackson Blvd., SE-5J Chicago, Illinois 60604

RE:

Proposed Revision to Approved Amended Removal Action Work Plan, 341 East Ohio Street Site, Chicago, Illinois - STS Project NO. 1-25585-XG, Correspondence No. 110

Dear Mr. Micke and Ms. Simon:

On behalf of TRS, STS Consultants, Ltd. (STS) is requesting a revision to the approved Amended Removal Action Work Plan for the 341 East Ohio Street Site. We previously requested and USEPA approved a revision relative to the sequence of removal actions in Area 1. The revision was to conduct Phase I and Phase II removals in Area 1 before proceeding to Areas 2, 3 and 4. That request was primarily to allow the use of Area 1 for equipment and material staging without having multiple moves.

The current request is for the same change in sequence for Areas 2, 3 and 4. That is to complete Phase I followed by Phase II on Area 2 before moving to Area 3, and complete Phase I followed by Phase II on Area 3 before moving to Area 4.

The principal reason for this requested revision is an effort to minimize traffic on exposed soil and reduce dust generation. Additionally, the maintenance of pavement in Area 4 until completion of Areas 2 and 3 will allow for the use of the on-site scale for weighing trucks.

It is our opinion that this change will not significantly change the schedule or cost, and may increase the efficiency of the work, as traffic patterns will be less disrupted during Phase II work in Areas 2 and 3.

Upon your review of this request, if it can be approved, please provide written confirmation of your concurrence for our project files. Please contact the undersigned with any questions you may have.

Regards,

STS CONSULTANTS, LTD.

bling. Esser ju

John S. Esser, P.E., P.G. Senior Project Engineer

Richard G. Berggreen, C.P.G

Principal Geologist

CC: Timothy Ramsey, Piper Rudnick AUG-22-02 12:16 FROM: TECH TEST

ID:3123532034

PAGE 2/2



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY REGION 5 77 WEST JACKSON BOULEVARD

77 WEST JACKSON BOULEVAR CHICAGO, IL 60604-3590

REPLY TO THE ATTENTION OF:

SE-5J

AUG 2 2 2002

VIA FACSIMILE (847)279-2510 AND U.S. MAIL

Mr. kichard Berggreen

Mr. John Esser

STS Consultants, Ltd.

750 Corporate Woods Parkway Vernon Hills, Illinois 60061

RE: J41 East Chio Work Plan. Chicago, Illinois Lindsay Light II Site/North McClurg Court

Dear Messrs. Berggreen and Esser:

This letter is in response to your facsimile dated August 16, 2002 regarding written concurrence on the sequence of remediation activities in Areas 2,3, and 4, U.S. EPA agrees with the following sequence proposed: complete Phase I and Phase II activities in Area 2 before moving to Area 3, and then complete Phase I and II activities in Area 3, before moving to Area 4, etc.

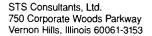
If you have any questions regarding this correspondence, please contact me at (312) 886-3601 or Fred Micke, On-Scene Coordinator, at (312) 886-5123, or Larry Jensen, Senior Health Physicist, at (312) 886-5026.

Sincerely,

Verneta Simon

On-Scene Coordinator

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voice 847-279-2500 fax 847-279-2510 web www.stsconsultants.com



September 27, 2002

Mr. Fred Micke, On-Scene Coordinator Ms. Verneta Simon, On-Scene Coordinator U. S. Environmental Protection Agency Region 5 77 W. Jackson Blvd., SE-5J Chicago, Illinois 60604

RE: Work Plan Change Request, 341 East Ohio Street Site, Chicago, Illinois - STS Project No. 25585-XI, Correspondence No. 122

Dear Mr. Micke and Ms. Simon:

This letter is to request your written concurrence with two revisions in the Work Plan related to work currently being conducted at the above referenced site. We understand these revisions from the procedures specified in the Work Plan were accepted in discussions in the field during a site visit. By this letter we are providing a written description of the changes and are requesting your concurrence.

The first change deals with the wedge of soil remaining along the north margin of the site. The Work Plan provides that the wedge of material below a slope of 1.5H:1V extending inward from the property line, be allowed to remain in place after the perimeter drilling program documented the material as non-radiologically-impacted. Note that in those areas where the drilling program showed the presence of impacted material, that material would be removed to clean limits or to the property line. In the course of excavating this location along the north margin of Areas 3 and 4, a foundation wall was encountered approximately 7 feet south of the northern property line. It was feasible to excavate vertically along the inside of this wall, toward the site, down to the natural sands, thus removing and allowing an increased quantity of the soil to be surveyed south of the wall. The presence of the wall, however, made the excavation between the wall and the sidewalk difficult as the bucket of the backhoe could not articulate to a point where the material on the outside of the wall could be excavated. As a result, the upper portion of the wedge on the outside of the wall, from a zero thickness at the sidewalk to a thickness of about 3 feet adjacent to the wall, would remain in place. That soil, however, was subject to a walkover gamma survey following the pavement stripping, such that the upper approximately 18 inches was surveyed. A sketch illustrating the slope, the concrete wall and the material proposed to remain is attached. This material was explored with the perimeter drilling program and was found to be non-radiologically impacted.

We are therefore requesting a change in the Work Plan to allow the upper part of the sloping wedge (north of the wall) to remain in place where this wall occurs. Soil has been removed which was not previously proposed to be removed, as the lower portion of the wedge was removed and surveyed on the inside of the wall. In that the soil remaining north of the wall has been explored through the perimeter drilling program, the upper portion of the remaining soil was surveyed through the walkover gamma survey, and soil was removed that was not originally proposed to be removed, we request your written concurrence with this change, and your concurrence that no restriction on your sign-off regarding the completeness and adequacy of the removal action will result from this change in the Work Plan.

U. S. Environmental Protection Agency STS Project No. 1-25585-XI September 27, 2002 Page 2

The second change involves the presence of a number of large concrete foundation elements in Areas 3 and 4. These elements appear to be pile caps for a former building at this site. It is noteworthy that they do not appear to have been associated with the building most recently removed from the site. In the course of the excavation and removal, it was noted that the floor slab for the most recent building did not have columns at the locations where these foundation elements were present. This indicates that the foundation elements were not constructed for that building, but were left from a former structure. In that the most recent building was constructed at the time Lindsay Light and Chemical Company was beginning operations on the adjacent parcel to the south (based on Sanborn Fire Insurance maps documenting building construction in 1917 and Lindsay operations to the south beginning 1916), these concrete pile caps must necessarily predate the Lindsay Light operations. Additionally, the field observations show that the concrete pile caps were formed and poured in the natural sand. No evidence of urban fill was noted surrounding these features. In accordance with the Work Plan, all fill material will be excavated down to and surrounding the features. At all of the concrete pile caps exposed, no evidence of radiologically impacted material was noted beneath the floor slab for the building that post-dated these features. As a result, we request your concurrence that these items may be left in place, and that no restriction on your sign-off regarding the completeness and adequacy of the removal action will result from this change in the Work Plan.

We appreciate your concurrence on this matter. Please provide us written confirmation of your agreement with this letter for our files. Please contact us with any questions you may have regarding this matter.

Regards,

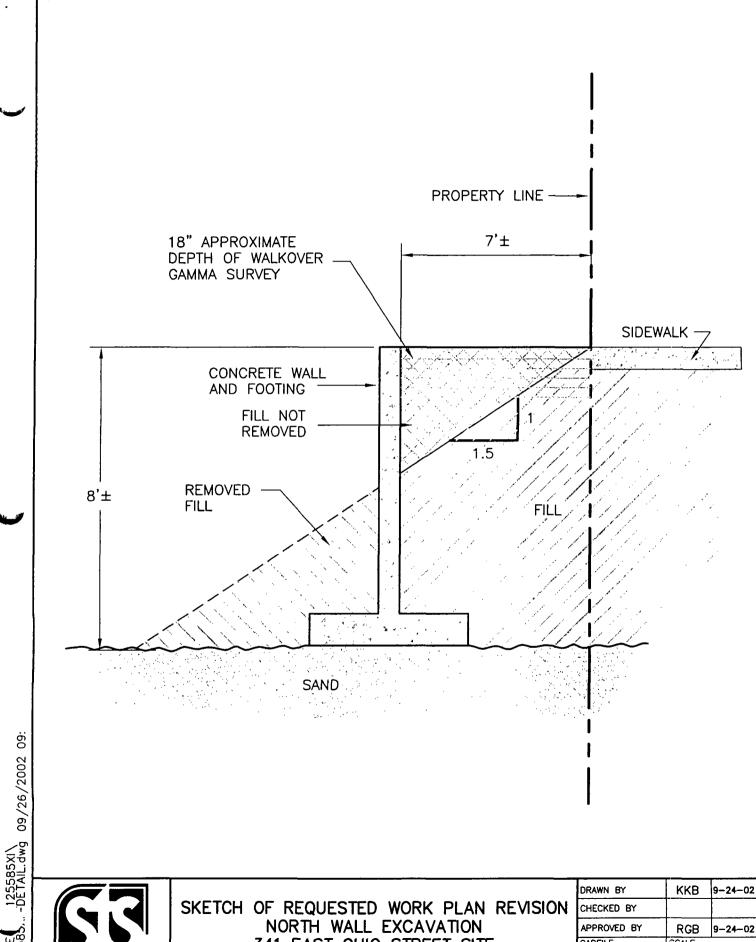
STS CONSULTANTS, LTD.

John S. Esser, P.G., P.E. Senior Project Engineer

Richard G. Berggreen, C.P.G.

Principal Geologist

cc: Tim Ramsey, Piper Rudnick Tom Pabian, Capri Capital



STS Consultants Ltd. Consulting Engineers

341 EAST OHIO STREET SITE CHICAGO, ILLINOIS

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APPROVED BY	RGB	9-24-02
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25585-XI		



847-279-2510 www.stsconsultants.com



October 8, 2002

Ms. Verneta Simon U. S. Environmental Protection Agency Region 5 77 W. Jackson Blvd., SE-5J Chicago, Illinois 60604

RE: Change to Work Plan Request, Additional Information - STS Project No. 1-25585-XI,

Correspondence No. 127

Dear Ms. Simon:

STS Consultants recently submitted a request for a change in the Work Plan regarding leaving certain concrete structures at the site. That request was dated September 27, 2002. In your review of that request, you have asked for some additional information, which we are providing in this letter.

With regard to the wall we are planning on leaving along the north margin of the site, we noted the perimeter drilling found no evidence of impacts in this area. You asked us for more specific information. Along the north portion of the perimeter drilling, impacts were noted between M.9-8.5 and N.1-10. The area where we are proposing to leave the wall is farther to the east, extending from 13.5 to 15.5 between lines M and N. As a result, we have no evidence of impacted material in the vicinity of the wall we request to leave in place.

You also asked for the specific dates when the discussion regarding this matter occurred with the STS field representatives. In checking field notes we find the site visit for this area occurred on September 19, 2002.

Finally, to clarify a question you asked in our telephone conversation this date, the additional material removed from the inside, site side, of the wall was removed for engineering reasons, as it was easier to remove it than to try to work the slope adjacent to the wall. No impacted material was found at that location.

We appreciate your attention to this matter. Please contact us with any further questions you have regarding this matter.

Regards,

ØNSULTANTS, LTD.

Richard G. Berggreen, C.P

Principal Geologist

CC: Timothy Ramsey, Piper Rudnick



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY REGION5 77 WEST JACKSON BOULEVARD CHICAGO, IL 60604-3590

REPLY TO THE ATTENTION OF

OCT 15 200

SE-5J

P.02/02

VIA FACSIMILE (847) 279-2510 AND U.S. MAIL

STS

Mr. Richard Berggreen STS Consultants, Ltd. 750 Corporate Woods Parkway Vernon Hills, Illinois 60061

RE: 341 East Ohio Work Plan Lindsay Light II Site/North McClurg Court

Dear Mr. Berggreen:

This letter is in response to your facsimiles dated September 27 and October 8, 2002 regarding written concurrence for discussions in the field on September 19, 2002. U.S. EPA agrees to the work plan changes described in your September 27, 2002 facsimile and supplemental information provided on October 8, 2002, which both involve leaving soil that was either surveyed and doomed nonradiologically impacted or by inference was deemed nonradiologically impacted.

If you have any questions regarding this correspondence, please contact me at (312) 886-3601 or Fred Micke, On-Scene Coordinator, at (312) 886 5123, or Larry Jensen, Senior Health Physicist, at (312) 886-5026.

Sincerely,

Verneta Simon

On Scene Coordinator

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APPENDIX D

Pesticide Sampling/Removal Memorandum



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5 77 WEST JACKSON BOULEVARD CHICAGO, IL 60604-3590

REPLY TO THE ATTENTION OF:

JUL 0 7 2002

VIA FACSIMILE (847) 279-2510 AND U.S. MAIL

Mr. Richard Berggreen STS Consultants, Ltd. 750 Corporate Woods Parkway Vernon Hills, Illinois 60061

RE: Pesticide Excavation and Verification Sampling 341 East Ohio, Chicago, Illinois Lindsay Light II Site/North McClurg Court

Dear Mr. Berggreen:

This letter is in response to your facsimile dated July 31, 2002 regarding U.S. EPA signoff on the pesticide verification sampling. We have reviewed your facsimile and the letter dated March 15, 2002 from Renee Cipriano, Director of the Illinois Environmental Protection Agency (Illinois EPA) to James Montana, Jr., Piper, Marbury, Rudnick & Wolfe. We agree that our signoff of the pesticide verification sampling will expedite remediation activities as long as the excavation meets the residential clean-up objectives specified by Illinois EPA. Therefore, please provide us with the pre-verification immunoassay results, the laboratory verification analytical results and sign-off form for each applicable grid.

If you have any questions regarding this correspondence, please contact me at (312) 886-3601 or Fred Micke, On-Scene Coordinator, at (312) 886-5123, or Larry Jensen, Senior Health Physicist, at (312) 886-5026.

Sincerely,

Verneta Simon

On-Scene Coordinator



847-279-2510 www.stsconsultants.com



July 31, 2002

Mr. Fred Micke, On-Scene Coordinator Ms. Verneta Simon, On-Scene Coordinator U. S. Environmental Protection Agency Region 5 77 W. Jackson Blvd., SE-5J Chicago, Illinois 60604

RE:

Pesticide Excavation and Verification Sampling, 341 E. Ohio Street Site, Chicago, Illinois - STS Project No. 1-25585-XI, Task 2300, Correspondence No. 103

Dear Mr. Micke and Ms. Simon:

Attached please find for your reference a copy of a memorandum regarding pesticide excavation and verification sampling at the 341 E. Ohio Street Site in Chicago, Illinois. Note that this memorandum provides the field team with guidance for removal and verification sampling which is described in general terms in the Amended Removal Action Work Plan (Work Plan) and does not represent a revision or change to the Work Plan.

Because the work described in this memorandum does involve sampling and verification of the cleanup, we are requesting that upon demonstration in accordance with this memorandum that the soil meets the specified cleanup criteria for pesticides, USEPA provide signoff on the completion of this portion of the removal action in the applicable grid areas. We propose to provide USEPA with the pre-verification immunoassay results, the laboratory verification analytical results and a sign-off form for each grid area.

Obtaining USEPA sign-off will facilitate our ability to demonstrate completion of the Phase 1 excavation work (which includes removal of these pesticide-impacted soils) and compliance with the non-radiological remedial portion of the Work Plan.

Please contact us with any questions.

Regards,

STS CONSULTANTS, LTD.

n S. Esser, P.E., P.G. nior Project Engineer

Richard G. Berggreen, & P.G.

Principal Geologist

CC: Tim Ramsey, Piper Rudnick

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Enclosure



FROM:

Memorandum

TO: Dumas Guerrier

cc: Tim Ramsey Steve Kornder

John Esser, Richard Berggreen

DATE: July 26, 2002

RE: Pesticide Excavation and Verification Sampling

341 E. Ohio Street, Chicago, Illinois

STS Project No. 1-6-25585-XI, Task 2300

This memorandum is intended to describe procedures to be followed in the field to complete the excavation and verification sampling in the Pesticide Impact Area. This memorandum provides additional details for this portion of the removal action which is described in general terms in the Amended Removal Action Work Plan (Work Plan) and associated documents and is intended to be consistent with the general approach reflected in the Work Plan.

Pesticide Impact Area

The Pesticide Impact Area is defined on the basis of the previously completed soil borings and analytical sampling and is depicted in the attached Figure 1. Additional soil sampling and analysis will be performed during the removal action to further delineate continuous extensions of the Pesticide Impact Area depicted on Figure 1 the extent of pesticide impacts for the purpose of removing pesticide contaminated soil in the Pesticide Impact Area and any continuous extensions thereof that exceeds the Illinois Tier 1 residential remediation objective for ingestion and inhalation.

Excavation Sequence

The excavation sequence and procedures are defined in the Work Plan. In review, the excavation and removal sequence for subsurface soils are as follows:

- 1. Area 1/Area 2 Phase 1 Radiological-Impacted Soil Removal
 - a. Remove pavement/gravel base course.
 - b. Perform Phase 1 removal of radiological-impacted soils.
 - c. Perform verification surveys/sampling of the excavation grade following Phase 1 removal of radiological-impacted soils in accordance with Work Plan.

- d. USEPA Notification of Successful Phase 1 Verification Survey in accordance with Work Plan.
- e. At this point, it is anticipated that the excavation grade will likely be characterized as a hummocky with irregular topography. The excavation depths may vary from near zero (just below pavement/base course removal) to approximately 10 feet below grade. The soils exposed at the completion of Phase 1 radiological material removal may consist of urban fill or natural sand (in deepest portions of excavation).
- f. Note that it may be necessary during Phase 1 radiological material removal to excavate a limited amount of non-radiological soil for excavation access or excavation stability. Within the defined Pesticide Impact Area, these non-radiological soils will be loaded, transported, and disposed as pesticide-impacted soil in accordance with the procedures defined in the Work Plan.

2. Pesticide Impacted Soil Excavation

- a. Discretionary pesticide sampling (described later) will be used to further delineate the lateral and vertical limits of remaining soil with pesticide impacts above the Tier 1 clean-up objectives.
- b. Where pesticide concentrations exceed the Tier 1 objectives, soil will be excavated in 18-inch lifts to a depth based on the depth of the discretionary sampling. Radiological screening will be performed following excavation of each 18-inch lift of soil. Radiological-impacted soils will be managed and disposed in accordance with the Work Plan. Non-radiological-impacted soils that are impacted by pesticides above the Tier 1 clean-up levels will be managed and disposed as pesticide-impacted soils in accordance with the Work Plan.
- c. Excavation in 18-inch lifts will continue as deep as necessary to remove pesticideimpacted soil that exceeds the Tier 1 objective. Additional discretionary sampling can be used to guide the lateral and vertical limits of excavation.
- d. After discretionary sampling indicates that pesticide-impacted soils have been removed, pre-verification sampling (described later) will be performed.

Soil Sampling and Analysis for Pesticide Contamination

1. <u>Discretionary Pesticide Sampling</u> - Discretionary pesticide sampling will be used in the field at the direction of the Field Team Leader for the purpose of evaluating pesticide concentrations of in-situ soils in the vicinity of the original soil borings. Discretionary samples will be collected as grab samples from shallow test pits, grab samples from the excavation surface following Phase 1 radiological soil removal, and as composite samples taken over a vertical interval on the excavation sidewalls. The soil sample and analysis will be performed using the field immunoassay procedure (SOP 500). Discretionary sampling will be employed to aid in delineating the lateral and vertical extent of pesticide impacts. The results of the discretionary sampling will be used to aid in the excavation and management of pesticide-impacted soils.

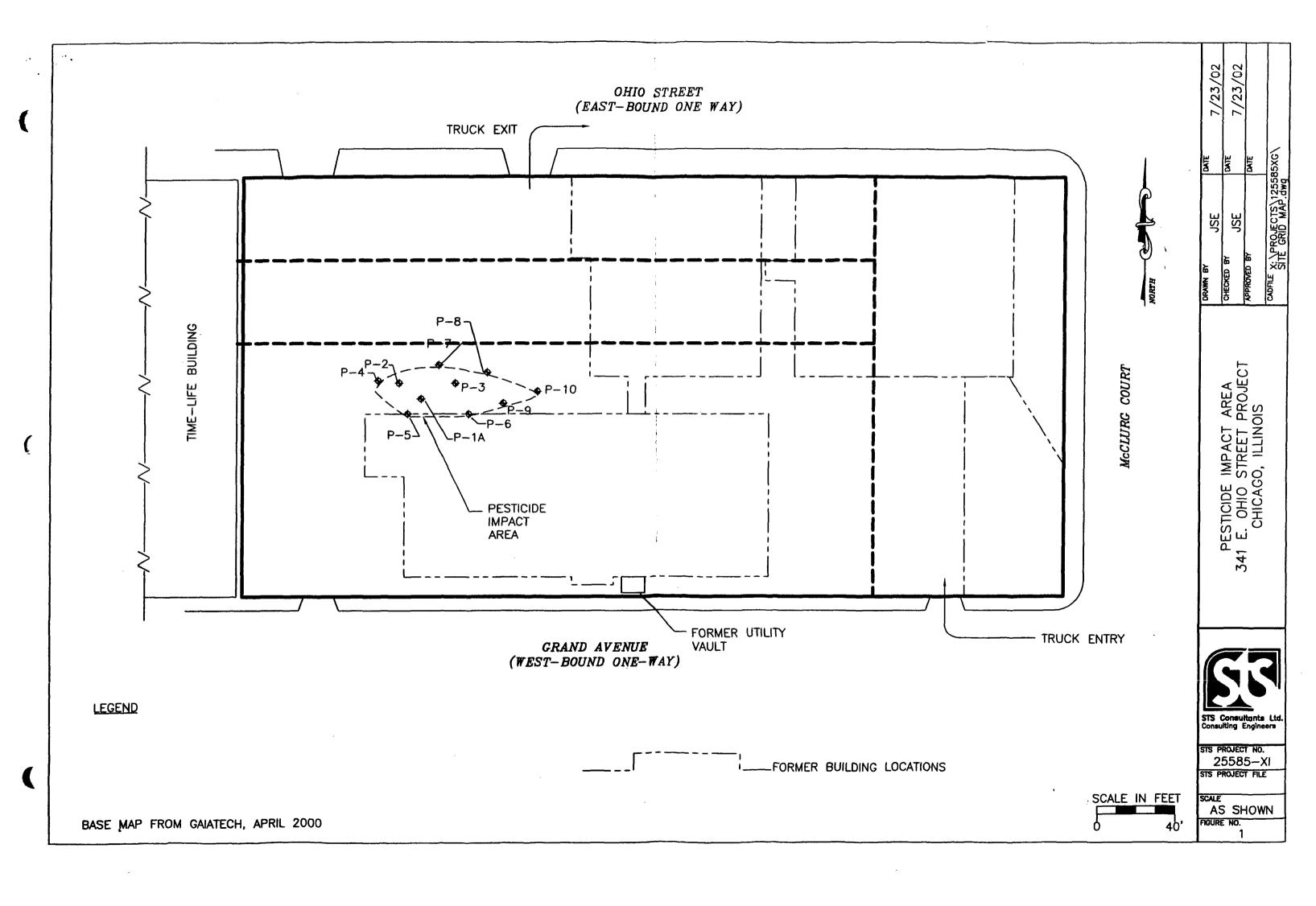
- 2. <u>Pre-Verification Pesticide Sampling</u> Pre-verification pesticide sampling will be performed on a pre-specified grid pattern (for excavation floor samples) or a pre-specified horizontal spacing (for excavation sidewall samples) after soils exceeding the Tier 1 clean-up objective have been excavated.
 - a. Pre-Verification Grid Samples The pre-verification sampling grid for these types of samples will be defined by 10-meter by 10-meter squares (see Figure 2) to yield an effective sampling area of 100 square meters per pre-verification sample. Each pre-verification grid sample will be prepared from a composite of five sub-samples collected from within the 10-meter by 10-meter sample area. The sub-sampling locations will be obtained by dividing the 10-meter by 10-meter sampling area into four equal quadrants measuring 5-meters by 5-meters. Four of the sub-samples will be collected from the center of the 5-meter by 5-meter quadrants. The fifth sub-sample will be obtained from the center of the 10-meter by 10-meter sample area. Sufficient soil volume will be obtained to allow pre-verification analysis and also subsequent laboratory analysis (if desired).
 - b. Pre-Verification Sidewall Samples The excavation following completion of Phase 1 radiological soil removal and pesticide-impacted soil removal is anticipated to characterized as a near-horizontal but irregular surface. In particular, it is possible that the excavation will not have distinct excavation sidewalls. Consequently, conventional "sidewall sampling" will not be possible and in that case the preverification grid sampling described above is expected to appropriately represent conditions in the sampled area. However, in the event that distinct excavation sidewalls are exposed following the removal of the pesticide-impacted soils, preverification sidewall samples will be collected. The pre-verification sidewall samples will be collected as a vertical composite of 5 sub-samples taken at equally spaced vertical intervals over the full height of the excavation sidewall. Additional preverification sidewall samples will be taken at a horizontal spacing of one per 10-meters of excavation sidewall. Sufficient soil volume will be obtained to allow preverification analysis and also subsequent laboratory analysis (if desired).
 - c. Sample Analysis The pre-verification sample will be analyzed using the field immunoassay procedure (SOP 500).
 - d. Comparison to Clean-up Standard The results of the pre-verification sample analyses will be compared to the compound-specific Illinois Tier 1 Residential Remediation Objectives for Ingestion and Inhalation listed below. In the event that the measured concentration in the pre-verification sample exceeds the applicable Tier 1 objective, pesticide excavation will resume in that area and the associated laboratory verification sample will not be submitted for laboratory analysis. Instead, pre-verification sampling will be repeated following the additional excavation.
- 3. <u>Verification Pesticide Sampling</u> When the results of the pre-verification pesticide sampling and analysis for a given 100-square meter area and any applicable excavation sidewall samples are below the Tier 1 objective, verification samples will be submitted for laboratory pesticide analysis by STL St. Louis.

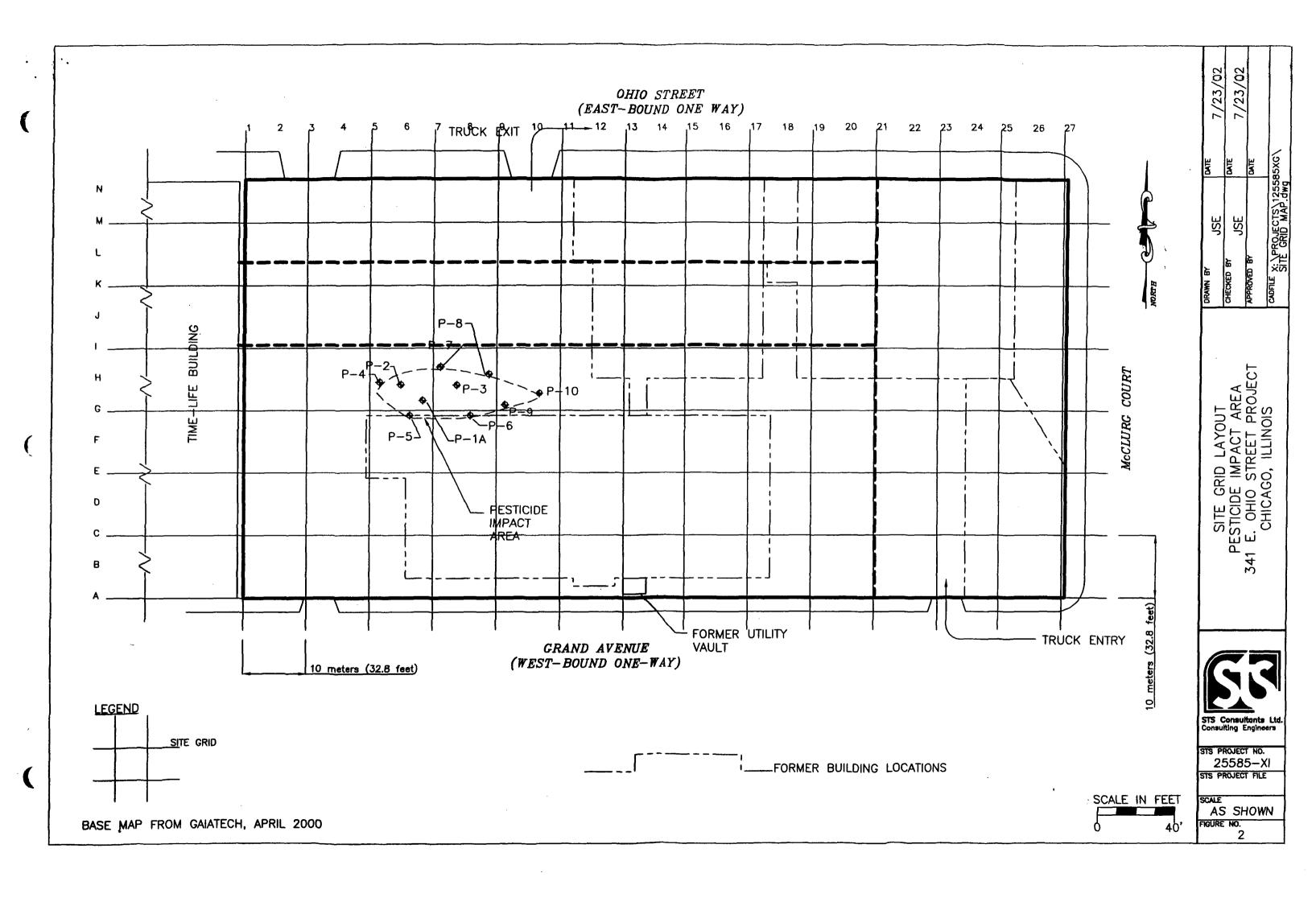
- a. Verification Grid Samples The sampling grid and sampling procedure for the verification grid samples will be identical to that of the pre-verification grid samples described above.
- b. Verification Sidewall Samples If the excavation characteristics are such that they allow the collection of one or more pre-verification sidewall samples, verification sidewall samples will be collected for the same location(s). The sample spacing and sampling procedure for the verification sidewall samples will be identical to that of the pre-verification sidewall samples described above.
- c. Soil Sampling Procedure The soil sample for laboratory verification sampling can be obtained as a split-sample from the pre-verification sample volume or as an independent sample collected from the same location and in the same manner as the associated pre-verification sample All verification soil samples will be collected in laboratory-supplied sample containers and preserved in accordance with laboratory requirements for shipping to STL St. Louis.
- d. Sample Analysis Verification soil samples will be analyzed for the seven pesticides listed in the Work Plan as well as 4,4-DDT (and provided in the table below) by STL St. Louis in accordance with the applicable requirements of the Quality Assurance Project Plan (QAPP). Test method will be SW-846 Method 8081A.
- e. Comparison to Clean-up Standard The results of the verification sample laboratory analyses will be compared to the Illinois Tier 1 Residential Remediation Objectives for Ingestion and Inhalation listed below. In the event that a target pesticide concentration in the verification sample exceeds the applicable Tier 1 objective, pesticide excavation will resume in that grid area (in 18-inch lifts) and the area will be re-sampled.

Illinois Tier 1 Residential Remediation Objectives for Ingestion and Inhalation

The following Illinois Tier 1 residential standards are provided for reference in evaluating the verification sample laboratory analysis results.

Compound	Site-Specific Clean- up Objective	Illinois Tier 1 Rem	ediation Objective
	(mg/kg)	Ingestion (mg/kg)	Inhalation (mg/kg)
Aldrin	0.04	0.04	3
alpha-BHC	0.1	0.1	0.8
Chlordane	1.8	1.8	72
Dieldrin	0.04	0.04	1
Heptachlor	0.1	0.1	0.1
Heptachlor epoxide	0.07	0.07	5
Lindane	0.5	0.5	**
4,4-DDT	2	2	







APPENDIX E

USEPA Signed Notification of Successful Verification Sampling Forms - Radiological



Phase I Exclusion Zone

PHASE I EXCLUSION ZON

FORM 223-1 NOTIFICATION OF SUCCESSFUL VERIFICATION SURVEY

Area Identification:	A-B	26	
Date of Vedfication Survey	6	11-02	Market Commence of the Commenc
Time of Verification Survey		3:00 pm	am/pm
			nd date indicated above. The d by the Site Removal Action
Documents pertaining to th	is survey are at	tached for review an	d approval by the U.S. EPA.
Signed:	h he		Date 6-11-02
120	the And	lanson	(Print Name)
Ru	conos	Maringan	(Print Title)
हुत	Soluti	STS Consultants ons through Bolance & Engle	-
The attached Verification 6/12/02 criteria as contained in the	Th	e results of this surv	by U.S. EPA, Region V c ey indicate that the verification
Authorization is hereby gra	nted to commer	hee backfill and resto	ration work at this excavatio
Signed:			
Fredrick a.	micke		Date 6/12/02
FREDRICK	A. MICH	ζ <i>E</i>	(Print Name)
ON-SCENE	COORD	INATOR	(Print Title)
For U.S. EPA Region V			

PHOSE I EXEKUSION ZON

FORM 223-1 NOTIFICATION OF SUCCESSFUL VERIFICATION SURVEY

Area Identification:	1, 15.5-17	
Date of Verification Survey:	7-8-02	•
Time of Verification Survey	9:00	am/ pm
The above-described excavation survey indicated that all soils in Criteria.	n was surveyed at the time a save been removed as require	nd date indicated above. The by the Site Removal Action
Documents pertaining to this sur	rvey are attached for review an	d approval by the U.S. EPA.
Signed: fold land		Date 7-8-02
Tella March	rase	(Print Name)
Records Man	inger	(Print Title)
SS	STS Consultants Solutions British Rolence & Englis	
The attached Verification Surv 7/9/02 criteria as contained in the UAO	rey documents were reviewed. The results of this surv., have been met.	by U.S. EPA, Region V c by indicate that the verification
Authorization is hereby granted	to commence backfill and resto	eration work at this excavation
Signed:		
Juny gener for Ver	sely Simon	Date 7/9/62
LARRY JENSEN		(Print Name)
SENIOR HEALTH	PHYSIUST	(Print Title)
For U.S. EPA Region V		
		•
	Page 4	• •

PHASE I Exolusion

FORM 223-1 NOTIFICATION OF SUCCESSFUL VERIFICATION SURVEY

Area Identification: #.5	0.5	14-15.5	
Date of Verification Survey:	7-8-02		
Time of Verification Survey	9:0	10 m	am/pm
The above-described excavation survey indicated that all solls ha Criteria.	was surveyed	at the time and o	
Documents pertaining to this surv	ey are sttached	for review and ap	proval by the U.S. EPA.
Signed:			
fall level			Date 7-8-02
Jella Andr	rson		(Print Name)
RECORDS MON	ng/ku		(Print Title)
SB	Solutions throug	STS Consultanta, Ltd. In Belence & Engineering	
	. The result	ere reviewed by a of this survey in	U.S. EPA, Region V c dicate that the verification
criteria as contained in the UAO, I			
Authorization is hereby granted to	commence bac	kfill and restoration	n work at this excavation
Signad:	·v / (-1/
dang feren du	terneta si	non	Date 7/4/02/9
LARRY JONSON	المراجعة والمراجعة والمراج		(Print Name)
SENIOR BEALTO	4 14410	157	(Print Title)
For U.S. EPA Region V		,	

Page 4

Verticante Servici Processire \$23-1.

PHOSE I EVELUSION 2

FORM 223-1 NOTIFICATION OF SUCCESSFUL VERIFICATION SURVEY

	15-E, 13-19	
late of Verification Surve	7-8-02	
ime of Verification Surve	7:00 m	an/pm
he above-described exc	avation was surveyed at the time as soils have been removed as required	nd date indicated above to by the Site Removal A
ocuments pertaining to t	his survey are attached for review and	approval by the U.S. EF
gred: fall les Jelle M.	d	Date 7-8-2
John M.	Asso-	
Recorps A	Wanneles	(Print Title)
		,
SS	STS Conventions Substants groups Science & Bayley	
ilena es conteinad in the	·	
iteria es confeined in the Othorization is hereby gri	Survey documents were reviewed. The results of this survey UAO, have been met. Interest to commence backfill and restor	
itena as contained in the athorization is hereby grand:	LIAO, have been met. anted to commence backfill and restor	ration work at this excava
iteria es contained in the uthorization is hereby gragned: LAPRY TANS	UAO, have been met. anted to commence backfill and restor for 1 gracks Simon	Dete 7/9/u
iteria es contained in the uthorization is hereby graigned: Lyu lash LARRY TENS	LIAO, have been met. anted to commence backfill and restor	ration work at this excava

Page 4

PHASE I ENCLUSION ZONE

Area Identification:	B-8.5	
Date of Verification Survey:	6-11-02	
Time of Varification Survey	3:00 Am	am/pm
	on was surveyed at the time and have been removed as required	
Documents pertaining to this su	urvey are attached for review and	approval by the U.S. EPA.
Signed:		:
- for le	Managan	Date 6-11-02
John !	Indusor	(Print Name)
Triones	Managar	(Print Title)
ES	STS Consultants, Salutions through Science & Enginee	Lad.
The attached Verification Sun 4/2/02 criteria as contained in the UAC	vey documents were reviewed in this survey	by U.S. EPA, Region V c y indicate that the verificatic
), have been med. I to commence backfill and reston	ation work at this execution
•	I IO COMMISSION DECYMARIS IN 189101	addi work at this excavation
Signed:	Micke	Date 6/12/02
FREDRICK A.	MICKE	(Print Name)
ON-SCENE	COORDINATOR	(Print Title)
For U.S. EPA Region V		
	· · · · · · · · · · · · · · · · · · ·	•

· PHOSE I Exchesser

res Identification: B-C, Z-G	
Pats of Verification Survey: 6-18-02	
ime of Verification Survey 10:30	am/pm
he above-described excavation was surveyed at the time urvey indicated that all soils have been removed as requiritaria.	
ocuments pertaining to this survey are attached for review	and approval by the U.S. EPA.
igned ////	•
fah lal-	Date 678-02
John Brokesson	(Print Name)
Raiores	(Print Title)
STR Conner. Statem Servey Select & S.	
he attached Verification Survey documents were review	wed by U.S. EPA, Region V
he attached Verification Survey documents were review. The results of this streets as contained in the UAO, have been met.	med by U.S. EPA, Region V operations of the verification of the ve
he attached Verification Survey documents were review	med by U.S. EPA, Region V on the verification work at this excevation
he attached Verification Survey documents were review. The results of this strated as contained in the UAO, have been met.	med by U.S. EPA, Region V operations of the verification of the ve
he attached Verification Survey documents were review. The results of this stribets as contained in the UAO, here been met. Signed:	med by U.S. EPA, Region V on the verification work at this excevation
he attached Verification Survey documents were review. The results of this stribets as contained in the UAO, have been met. Lighertzation is hereby granted to commence backfill and management. Signed:	wed by U.S. EPA. Region V ourvey indicate that the verification work at this excavation. Date 4/19/02

Verneta Simon Date 6/25/c.

Verneta Simon (Print Name)

On Scene Courdinator (Print Title)

For U.S. EPA Region V

PHASE E Evalusin 2

Area Identification:	-c 7-13	
Date of Verification Surve	7-8-02	
Time of Verification Surve	y <u>9:00</u>	am/pm
	cavation was surveyed at the time and soils have been removed as required	
Documents pertaining to	this survey are attached for review and	approval by the U.S. EPA.
Signed La		Date 7-8-0
John K	ndrason	(Print Name)
Records	Manager	(Print Title)
Sa	STS Cornellmen, i Saluthur Sepugh Science & Engineer	
The strached Verification	Survey documents were reviewed I	by U.S. EPA, Region V
criteria as contained in the	The results of this survey a UAO, have been met.	A SIGNESSE WHAT THE ABILITOR
Authorization is hereby gr	ranted to commence backfill and restore	tion work at this excavation
Signed:	for Verneta Somon	Date 7/9/02
HARY JONE	رمع	(Print Name)
CENIOL HEAL	74 PHYICIST	(Print Title)
For U.S. EPA Region V		
	• • • •	

ARKA IT PHOSE I

FORM 223-1 NOTIFICATION OF SUCCESSFUL VERIFICATION SURVEY

Area Identification: $B.5-D$, $23.5-25$	Exelusion ZON
Date of Verification Survey: 10-1-02	•
Time of Verification Survey 1:00	an√pm
The above-described excavation was surveyed at the time and d survey indicated that all soils have been removed as required by Criteria.	
Documents pertaining to this survey are attached for review and approximately	proval by the U.S. EPA.
Signed:	
fall hol-	Date 10-1-02
John Andrew	(Print Name)
RACORDS MANAGER	(Print Title)
STR Consultants, Ltd. Solutions through Science & Engineering	
STS Consultants, Ltd.	U.S. EPA, Region V o
STS Consultants, Ltd. Solutions through Science & Engineering The attached Verification Survey documents were reviewed by	U.S. EPA, Region V on indicate that the verification
The attached Verification Survey documents were reviewed by 1012102. The results of this survey in criteria as contained in the UAO, have been met. Authorization is hereby granted to commence backfill and restoration Signed;	U.S. EPA, Region V on indicate that the verification on work at this excavation
The attached Verification Survey documents were reviewed by	U.S. EPA, Region V on adicate that the verification on work at this excavation Date 10/2/62
The attached Verification Survey documents were reviewed by	U.S. EPA, Region V on indicate that the verification on work at this excavation
The attached Verification Survey documents were reviewed by 1012102. The results of this survey in criteria as contained in the UAO, have been met. Authorization is hereby granted to commence backfill and restoration Signed;	U.S. EPA, Region V on adicate that the verification on work at this excavation Date 10/2/62
The attached Verification Survey documents were reviewed by 0 2 02	U.S. EPA, Region V on adicate that the verification on work at this excavation Date 10/2/02 (Print Name)

Page 4

PHOSA I ENCLUSION ZON

Area Identification:	5-8:5	
Date of Verification Survey:	6-11-02	
Time of Verification Survey	3:00 Am	am/pm
	on was surveyed at the time and have been removed as required b	
Documents pertaining to this st	urvey are attached for review and a	pproval by the U.S. EPA.
Signed:	haluso-	Date 6-11-02
7 11	1 /	Usie Direct
- NORN	walkso-	(Print Name)
<u> </u>	MANAGRA	(Print Title)
SS	STS Consellants, Lt.	
	Dataliero trough Science & Septemb	<u> </u>
The attached Verification Sur	vey documents were reviewed by The results of this survey O, have been met.	U.S. EPA, Region V c
criteria as contained in the UAC	O, have been met.	
Authorization is hereby granted	d to commence backfill and restorat	ion work at this excavation
Signed:		
Fredrick a	micke	Date 6/12/02
FREDRICK A.	MICKE	(Print Name)
ON-SCENE	COORDINATOR	(Print Title)
For U.S. EPA Region V		
	•	
	• •	•

PHASE I Excusion 2000

Area Identification:	<i>-D</i>	2-6		
Date of Verification Survey:	6-	24-02		· :
Time of Verification Survey	1.6	209-	~~	am/pm
The above-described excavation survey indicated that all solls Criteria.	on was surv have been r	eyed at the tim removed as req	e and date in uired by the	ndicated above. The Site Removal Action
Documents pertaining to this su	urvey are att	ached for review	v and approva	I by the U.S. EPA,
Signed:	dar-			Date <u>6-25-</u> 0
Tolow And	enso			_ (Print Name)
PACONDS MA	migh	1_		(Print Title)
ER	Solutio	STS Consunts through Science & (
The attached Verification Sur 6/25/02- criteria as contained in the UAC	The	results of this s		
Authorization is hereby granted .	i to commen	ce backfill and r	estoration wo	rk at this excavatio
Signed: Venuer Si	ma`			Date 6/25/w
Verneta Simo	<u> </u>	· · · · · · · · · · · · · · · · · · ·		(Print Name)
On-Scene Cooke	dinater	·		(Print Title)
For U.S. EPA Region V		·		

PHOSE I Exclusion Zone

Area Identification:			
Date of Verification Su	ırvey:	6-24-02	
Time of Verification St	urvey	1:00 80	am/pm
The above-described survey indicated that Criteria.	excevation version soils have	was surveyed at the time are been removed as require	and date indicated above. The ed by the Site Removal Action
Documents pertaining	to this surve	ey are attached for review a	nd approval by the U.S. EPA.
Signed:	le for	don-	Date 6-25-02
John	And	rnsor	(Print Name)
Pacoros	mong	den	(Print Title)
<u> </u>		STS Consulta Solutions twough Science & Eng	
The attached Verific	ation Survey	Solutions through Science & Exp documents were reviews	
criteria as contained	in the UAO, h	documents were reviews The results of this surhave been met.	ed by U.S. EPA, Region V (
criteria as contained	in the UAO, f	documents were reviews The results of this surhave been met.	ed by U.S. EPA, Region V convey indicate that the verification storation work at this excavation
criteria as contained in Authorization is here! Signed:	in the UAO, f by granted to	documents were reviewed. The results of this surplined been met. commence backfill and results.	ed by U.S. EPA, Region V convey indicate that the verification storation work at this excavation
criteria as contained in Authorization is here! Signed:	in the UAO, to by granted to Sunch	documents were reviewed. The results of this such ave been met. commence backfill and results.	ed by U.S. EPA, Region V convey indicate that the verification work at this excavation. Date 655/6>

PHASE I EXCLUSION ZONE

Area Identification:		
Date of Verification Surve	y. 7-8-02	
Time of Verification Surve	سه جمعه و	am/pm
The above-described ex- survey indicated that all Criteria.	cavation was surveyed at the tir soils have been removed as re-	me and date indicated above. The quired by the Site Removal Action
Documents pertaining to	this survey are attached for revie	w end approval by the U.S. EPA.
Signed:		Date 7-8-02
	ndraso-	(Print Name)
Records	MANAGEL	(Print Title)
ES	STS Cens Solutions through Science &	udberts, Litt. Engineering
The attached Verification 7/9/0 ~ criteria as contained in the	The results of this	swed by U.S. EPA, Region V c survey indicate that the verification
Authorization is hereby g	ranted to commence backfill and	restoration work at this excavation
Signed:	for Verneto Simo	Date 7/9/02
LARRY JENSE	for Verneta Simon	(Print Name)
SENIOR AF	ALTH PHYICIST	(Print Title)
For U.S. EPA Region V	•	

PHOSE E Exclusion

Area locatification:	-E, 11-13	
Date of Verification Surve	v. 7-8-02	
Time of Verification Surve	7:00	zm/pm
	cavation was surveyed at the time an soils have been removed as required	
Documents pertaining to t	this survey are attached for review and	approval by the U.S. EPA.
Signed:		Date 7-8-02
Jella H	ndruse.	(Print Name)
Recorps 1	Monger	(Print Title)
E3	878 Cananjinan, Salaina though Science & Englas	
The attached Verification	Survey documents were reviewed. The results of this surve	by U.S. EPA, Region V or indicate that the verification
criteria as contained in the	e UAC), have been met. ranted to commence backfill and restor	whon work at this excavation
Signed:	on for Verneta Simon	
LARRY J	ENSEN	(Print Name)
	ALTH PHYSICIST	(Print Title)
For U.S. EPA Region V		
	•	

PHOSE I ENCL ZONE

Area Identification:	
Date of Verification Survey: 6-24-02	
Time of Verification Survey	am/pm
The above-described excavation was surveyed at the time and survey indicated that all soils have been removed as required to Criteria.	
Documents pertaining to this survey are attached for review and a	approval by the U.S. EPA.
Signed:	Date 6:25-0
Tolh Molanson	(Print Name)
14cons Monagen	(Print Title)
STS Consultants, Le Solutions through Science & Engineeri	
The attached Verification Survey documents were reviewed b The results of this survey criteria as contained in the UAO, have been met.	• •
Authorization is hereby granted to commence backfill and restorate	tion work at this excavatio
Signed:	
Ulruto Amon	Date 425/C2
Verneta Simon	(Print Name)
On-Scene Covedinator	(Print Title)
For U.S. EPA Region V	

PHOSE R ENC. ZONE

Area Identification:	,6-9	
Date of Verification Survey:	6-24-02	
Time of Verification Survey	1:00 Pm	am/pm
The above-described excavation visurvey indicated that all soils have Criteria.		
Documents pertaining to this survey	y are attached for review and	approval by the U.S. EPA.
Signed:	na-	Date 6-25-0:
JOHN ANDER	_	(Print Name)
Theores m.	magn	(Print Title)
	•	
<u>Ea</u>	STS Consultants, Solutions through Science & Engine	L L
The attached Verification Survey criteria as contained in the UAO, ha	documents were reviewed The results of this surve	by U.S. EPA, Region V (
4/25/12	documents were reviewed The results of this surve	by U.S. EPA, Region V c by indicate that the verification
criteria as contained in the UAO, ha	documents were reviewed The results of this surve	by U.S. EPA, Region V c by indicate that the verification ration work at this excavation
criteria as contained in the UAO, has Authorization is hereby granted to a Signed: Venefor Simon	documents were reviewed The results of this surve ave been met. commence backfill and restor	by U.S. EPA, Region V c by indicate that the verification
criteria as contained in the UAO, ha	documents were reviewed The results of this surve ave been met. commence backfill and restor	by U.S. EPA, Region V copy indicate that the verification work at this excavation. Date 6/25/62

PARSE P EXCLUSION ZONE

Area Identification: E-F, 13.5-	-15-
Date of Verification Survey: 8-7-0	
Time of Verification Survey 2:001	Am/pm
The above-described excevation was survey survey indicated that all soils have been ren Criteria.	
Documents pertaining to this survey are attack	ned for review and approval by the U.S. EPA.
Signed.	Date 8-8-02
Tolla Andanson	(Print Name)
Resours MANAYAN	(Print Title)
বর	STS Consultants, Ltd. hrough Science & Engineering
The attached Verification Survey documents. The recriteria as contained in the UAO, have been more	were reviewed by U.S. EPA, Region V reults of this survey indicate that the verifications.
Authorization is hereby granted to commence	backfill and restoration work at this excavation
Signed. Newbo Simo	Date 9/8/C2
Verneta Simon	Date 98/C2 (Print Name)
On-Scene Covedinator	
For U.S. EPA Region V	
	·

ticus 'direction' <u>E-6, 1-3 Phrs</u> e	L Timol
ate of Verification Survey: 8-8-02	
in a st Madication Survey	am/pm
The above-described excavation was surveyed at the curvey indicated that all solls have been removed as writtens.	time and date indicated above. To required by the Site Removal Acti
ocuments pertaining to this survey are attached for re-	view and approval by the U.S. EPA.
signed:	Date <u>8-8-02</u>
Tota Andrew	(Print Name)
RECORDS MONOGER	(Print Title)
	establishe Lail.
Solutions Prough Octob	so & Englanding
The attached Verification Survey documents were re	so & Englanding
The attached Verification Survey documents were not the contained in the UAO; have been met.	eviewed by U.S. EPA, Region V on the survey indicate that the verification is survey indicate that the verification is a survey indicate that the survey is a survey in the survey is a survey in the survey indicate that the verification is a survey in the survey in the survey is a survey in the survey is
The attached Verification Survey documents were in 1990 The results of the the UAO; have been met. Surtherization is hereby granted to commence backfill as identify.	eviewed by U.S. EPA, Region V on the survey indicate that the verification is survey indicate that the verification is a survey indicate that the survey is a survey in the survey is a survey in the survey indicate that the verification is a survey in the survey in the survey is a survey in the survey is
The attached Verification Survey documents were in 1990 The results of the the UAO; have been met. Surthorization is hereby granted to commence backfill as signed?	eviewed by U.S. EPA, Region V on this survey indicate that the verification work at this excevation
The attached Verification Survey documents were in S/9/CZ. The results of the the transfer of	eviewed by U.S. EPA, Region V on this survey indicate that the verification and restoration work at this excavation. Date 8/9/62
The attached Verification Survey documents were in 1996. The results of the the tribulation is hereby granted to commence backfill as signed? Verneta Simon On Scrine Canadinator	eviewed by U.S. EPA, Region V of his survey Indicate that the verification and restoration work at this excavation. Date 8/9/62 (Print Name)
The attached Verification Survey documents were more of the property of the contained in the UAO; have been met. Signed: Verneta Simon	eviewed by U.S. EPA, Region V of his survey Indicate that the verification and restoration work at this excavation. Date 8/9/62 (Print Name)

PHASE & Exclusion 202

Area Identification:	-6,2-4	
Date of Verification Survey: _	7-12-02	
Time of Verification Survey _	10:00	(armin)
		and date indicated above. The ired by the Site Removal Action
Documents pertaining to this	survey are attached for review	and approval by the U.S. EPA.
Signed:		· •••
for the		Date <u>2-12-02</u>
John Anc	Crosor_	(Print Name)
Incomes M	mongen	(Print Title)
SS	STE Consults Solutions through Solence & En	
The attached Verification S 7/2/02 criteria as contained in the U	Survey documents were review The results of this su AO, have been met.	ed by U.S. EPA, Region V curvey indicate that the verification
Authorization is hereby grant	ted to commence backfill and re	storation work at this excavatio
Signed:		, ,
- Fredrick a	. Micke	Date 7 /12/02
FREDRICK	A MICKE	(Print Name)
ON-SCENE	COORDINATOR	(Print Title)
For U.S. EPA Region V		
		•
	·	

PHAN I Exclusion Zowa

Area Identification:	E-6, 4-6	
	ey. 7-12-02	
Time of Verification Surv	ey 10:00	amiem
	cavation was surveyed at the time an soils have been removed as required	
Documents pertaining to	this survey are attached for review and	approval by the U.S. EPA.
Signed:	hl-	Date 7-12-0
Jolla A	classon_	(Print Name)
RALONOS	Manger	(Print Title)
Se	STE Consultants, Butations through Scients & England	
The attached Varification 7/12/02 criterie as contained in the	on Survey documents were reviewed. The results of this surve he UAO, have been met.	by U.S. EPA, Region V or indicate that the verification
Authorization is hereby (granted to commence backfill and restor	ation work at this excavatio
Signed: ——tradrick	a. micke	Data 7/12/02
FREDRIC	K A. MICKE	(Print Name)
ON-SCE	NE COORDINATOR	(Print Title)
For U.S. EPA Region V		
	•	

PANSE & EVILLENIA ZONE

Area Identification:	1,6-8	
Date of Verification Survey:	7-12-02	
Time of Verification Survey	10:00	(am)om
		and date indicated above. The ired by the Site Removal Action
Documents pertaining to this:	survey are attached for review	and approval by the U.S. EPA.
Signed:		
fold les	<u></u>	Date 7-12-02
John And	raser	(Print Name)
Priores M	mngan	(Print Title)
<u>E</u> 3	STS Consults Solutions through Science & En	
The attached Verification Su 7/12/02 criteria as contained in the UA	rivey documents were review. The results of this su	ed by U.S. EPA, Region V corrections of the control
	ed to commence backfill and re	storation work at this excavatio
Signed:		
Fredrick G	2. Micka	Date 7/12/02
FREDRICK :	A. MICKE	(Print Name)
ON-SCENE	COORDIN ATOR	(Print Title)
For U.S. EPA Region V	. •	
• •		
		•

Area Identification:	-6,8-10	
Date of Verification Survey:	7-12-02	
Time of Verification Survey	10:00	
		and date indicated above. The red by the Site Removal Action
Documents pertaining to this s	urvey are attached for review a	and approval by the U.S. EPA.
Signed:		Date <u>7-12-02</u>
Tothe Broke		(Print Name)
PALONOS M	own JAR	(Print Title)
SIG	SYS Concells Solutions twough Science & Eng	
The attached Varification Su 7/12/02 criteria as contained in the UA	rvey documents were review. The results of this su O, have been met.	nd by U.S. EPA, Region V c rvey indicate that the verification
Authorization is hereby granted	d to commence backfill and res	doration work at this excavatio
Signed:		, 1
Fredrick a.	necke	Date 7/12/02
FREDRICK -	A. MICKE	(Print Name)
ON-SCENE	COORDINATOR	(Print Title)
For U.S. EPA Region V		
		•

PHOSE E RACHSION

Area Identification:	E-G/10-12	
Date of Verification Survey:	722-02	,
Time of Verification Survey	9:30	am/pm
The above-described excav- survey indicated that all soil Criteria.	ation was surveyed at the time and da is have been removed as required by	ate indicated above. The the Site Removal Action
Documents pertaining to this	survey are attached for review and app	roval by the U.S. EPA.
Signed:	beau in	Date 7-22-02
DUMANIAIS	L. Gumen	(Print Name)
The Coords		(Print Title)
		•
<u>e</u> s	STS Consultants, Ltd. Solutions through Science & Engineering	
The attached Verification \$ 7/23/03 criteria as contained in the U/		J.S. EPA, Region V collicate that the verification
7/23/03 criteria as contained in the U/	Solutions through Science & Engineering Urvey documents were reviewed by U	licate that the verificatic
7/23/03 criteria as contained in the U/	urvey documents were reviewed by U The results of this survey ind AO, have been met.	licate that the verificatic
7/23/03 criteria as contained in the U/ Authorization is hereby grante Signed:	urvey documents were reviewed by U The results of this survey ind AO, have been met.	work at this excavation
7/23/03 criteria as contained in the U/ Authorization is hereby grante Signed: ———————————————————————————————————	urvey documents were reviewed by the commence backfill and restoration	work at this excavation Date 7/23/02
7/23/03 criteria as contained in the U/ Authorization is hereby grante Signed:	urvey documents were reviewed by the results of this survey ind AO, have been met. ed to commence backfill and restoration	work at this excavation Date 7/23/62 (Print Name)

PHOSE & EVELUSION ZON

Alea Menuncadori.	6-1 19-11	
Date of Verification Survey:	7-22-02	
Time of Verification Survey	9:05	am/pm
The above-described excavati survey indicated that all soils Criteria.	ion was surveyed at the time ar have been removed as required	nd date indicated above. The street of the s
Documents pertaining to this so	urvey are attached for review and	approval by the U.S. EPA.
Signed Lenguera		Date
· DOMANAI	of Guenara	(Print Name)
SC	STS Commitments, Scholare through Science & Engine	
7/23/02	vey documents were reviewed The results of this surve	by U.S. EPA, Region V c
criteria as contained in the UAC	D, have been met.	•
CIREITE ES CORREINED IN THE UAC), have been met. I to commence backfill and restor	
criteria as contained in the UAC Authorization is hereby granted Signed:), nave been mer. I to commence backfill and restor	ation work at this excavation
criteria as contained in the UAC Authorization is hereby granted Signed:), nave been mer. I to commence backfill and restor	ation work at this excavation
Authorization is hereby granted Signed:	J, nave been met.	ation work at this excavation Date 7/23/02
Authorization is hereby granted Signed:	to commence backfill and restor	Date 7/23/02 (Print Name)

Area Identification:	6-1/11-13	and the second s
Date of Verification Survey:	7-22-02	
Time of Verification Survey	9:15	am/pm
The above-described excav survey indicated that all soi Criteria.	ration was surveyed at the time and ils have been removed as required t	date indicated above. The by the Site Removal Action
Documents pertaining to this	s survey are attached for review and a	pproval by the U.S. EPA.
Signed:	GUERNIEN Soldieno for	Date 7-23-0
DUMARIAIS F.	GUERNIEN	Print Name)
The Co	er sico for	(Print Title)
<u>ea</u>	\$75 Consultants, Ltd Solutions through Science & Engineerin	
The attached Venification S 7/2.3/02 criteria as contained in the U.	· · · · · · · · · · · · · · · · · · ·	, U.S. EPA, Region V c
7/2.3/02 criteria as contained in the U	Solutions through Science & Engineerin Survey documents were reviewed by	U.S. EPA, Region V c indicate that the verificatic
7/2.3/02 criteria as contained in the U	Solutions through Science & Engineering Survey documents were reviewed by The results of this survey (AO, have been met.	U.S. EPA, Region V c indicate that the verificatic
7/23/02 criteria as contained in the U. Authorization is hereby grant	Solutions through Science & Engineering Survey documents were reviewed by The results of this survey if AO, have been met. ted to commence backfill and restorations.	U.S. EPA, Region V c indicate that the verification work at this excavation
7/2.3/02 criteria as contained in the U. Authorization is hereby grant Signed:	Solutions through Science & Engineering Survey documents were reviewed by The results of this survey in the	U.S. EPA, Region V c indicate that the verification work at this excavation
7/23/02 criteria as contained in the Un Authorization is hereby grant Signed: ———————————————————————————————————	Solutions through Science & Engineering Survey documents were reviewed by The results of this survey in the	U.S. EPA, Region V condicate that the verification work at this excavation Date 7/23/02

PHOSE I Exclusion Zone

Area Identification:G	1-1.5/2-4	
Date of Verification Survey:	7-22-02	
Time of Verification Survey	9:25	(am/pm
The above-described excavation survey indicated that all soils ha Criteria.	was surveyed at the time an	d date indicated above. The by the Site Removal Action
Documents pertaining to this surv	ey are attached for review and	approval by the U.S. EPA.
Signed: Dungage is I Gu	wes	Date 7-23-02
Dungagi & Go	san'IR	(Print Name)
5. L. Cool	inolo	(Print Title)
_53	STS Consultants, i Solutions strongh Selence & Englises	ise.
The attached Verification Survey 7/23/02 criteria as contained in the UAO, h	The results of this survey	by U.S. EPA, Region V c indicate that the verification
Authorization is hereby granted to	commence backfill and restors	ntion work at this excavation
Signed:		1 ,
Fredrick a. m	icke	Date 7/23/02
FREDRICK A.	MICKE	(Print Name)
ON-SCENE CO	DRDINATOR	(Print Title)
For U.S. EPA Region V		

PHOSE T EVELUSION ZON.

Area Identification: 6-14.5, 20-27.5 EXCLUSION 201
Date of Verification Survey: 9-30-02
Time of Verification Survey
The above-described excavation was surveyed at the time and date indicated above. The survey indicated that all soils have been removed as required by the Site Removal Action Criteria.
Documents penalning to this survey are attached for review and approval by the U.S. EPA.
Signed: Date 10-1-02
John Andreson (Print Name)
RACORDS MENNAGAN (Print Title)
BYB Constultants, Ltd. Belitions through Rolense & Briginsering
The attached Verification Survey documents were reviewed by U.S. EPA, Region V o 10 1 07. The results of this survey indicate that the verificatio criteria as contained in the UAO, have been met.
Authorization is hereby granted to commence backfill and restoration work at this excavation
Signed: Sany Jensen for Vernata Simon Date 10/1/02
herry Jeasen (Print Name)
Senior Health Physicist (Print Tille)
For U.S. EPA Region V

PHOSE E Exclusion zone

	2-I.5 4	
Date of Verification Survey: _	7-23-02	
Time of Verification Survey	8:00	am/pm
The above-described excava	stion was surveyed at th	e time and date indicated above. The sequired by the Site Removal Action
Documents pertaining to this	survey are attached for n	eview and approval by the U.S. EPA.
Signed:		
John Anda,		Date <u>7-23-02</u>
John Anda,	450N	(Print Name)
RACONDS MO	wager.	(Print Title)
SS	_	
	Stillians Sweeth Scie	Percellusts, I.M. Mar & Enghaning
7/23/02	The results of	reviewed by U.S. EPA, Region V of this survey indicate that the verification
7/23/02 criteria as contained in the U	AO, have been met.	this survey indicate that the verification
7/23/02 criteria as contained in the U	AO, have been met.	
7/23/02 criteria as contained in the U. Authorization is hereby grant Signed:	AO, have been met.	this survey indicate that the verification work at this excavation
7/23/02 criteria as contained in the U. Authorization is hereby grant Signed:	AO, have been met.	this survey indicate that the verification work at this excavation
7/23/02 criteria as contained in the U. Authorization is hereby gram. Signed:	AO, have been met.	and rectoration work at this excavation. Date 7/23/02
7/23/02 criteria as contained in the U. Authorization is hereby grant Signed: FREDRICK	The results of AO, have been met. and to commence backfill:	and rectoration work at this excavation Date 7/23/02 (Print Name)
7/23/02 criteria as contained in the U. Authorization is hereby grant Signed: FREDRICK	The results of AO, have been met. sed to commence backfill. 2. Micke. A. MICKE	and rectoration work at this excavation Date 7/23/02 (Print Name)
7/23/02 criteria as contained in the U. Authorization is hereby gram. Signed: FREDRICK ON-SCENE	The results of AO, have been met. sed to commence backfill. 2. Micke. A. MICKE	and rectoration work at this excavation Date 7/23/02 (Print Name)

PHOSE & EXCLUSION ZONE

Area Identification:_	12	5	6.8	· · · · · · · · · · · · · · · · · · ·	
Date of Verification	Survey:	7-23	-02-	······································	,
Time of Verification	Survey	G.00	, John		am/pm
					indicated above. The Site Removal Action
Documents pertainir	ng to this sur	vey are atta	ached for re	view and approv	vel by the U.S. EPA.
Signed:	/ Moh.				Date 7:23:02
John ,	Andras	· / /			
Znemp:	5 Mm	vague	•		(Print Title)
Se			ns through Scien	Consultants, Ltd. De & Engineering	
The attached Verifi 7/23/6 criteria as contained	cation Surv in the UAO	ey docume The , have been	nts were n results of t met.	eviewed by U.S his survey indica	S. EPA, Region V c ste that the verification
Authorization is here	eby granted	to comment	ce backfill a	nd restoration w	ork at this excavatio
Signed:					
- Fredric	k Q	mic	ka:	·	Date 7/23/02
FRED	RICK	A	MICKE	C	(Print Name)
ON-50	CENE	C00	RDIN	ATOR	(Print Title)
For U.S. EPA Regio	πV	• •	•		

PHASE I - Brelision 200

Area Identification:	6-1.5/8-9	
Date of Verification Survey:	7-72-02	
Time of Verification Survey	9:00	<u>á</u> mpm
The above-described excavate survey indicated that all soils Criteria.	tion was surveyed at the time an have been removed as required	d date indicated above by the Site Removal Ac
Documents pertaining to this s	survey are attached for review and	approval by the U.S. EPA
Signed: Sura	um u L Guerrier	Date 7-22-02
Dunnasai	is to Guerrier	(Print Name)
Jite Cook	ing for	(Print Title
<u>Eg</u>	STS Convultants, Schalans through Science & Bagines	
	The results of this survey O, have been met.	
Authorization is hereby granted	to commence backfill and restor	ation work at this excavation
Signed:	•	,
Fredrick a.	Micke	Datc 7/23/02
	9 MICKE	
ONISCENE		
DIV SELIVE	COORDINATOR	(Print Title)

PHASE T EVELUSION ZON.

Area Identification:	1,5,20-2	24.5	EXCLUSION 201
Date of Verification Survey:	9-30-02		
Time of Verification Survey	1:000		am/pm
The above-described excavati survey indicated that all soils Criteria.	on was surveyed at the have been removed as	time and date required by the	indicated above. The Site Removal Action
Documents pertaining to this s	urvey are attached for rev	view and appro-	val by the U.S. EPA.
Signed:			Date 10-1-02
JoHN Brua	anson		(Print Name)
RNCORDS	mounder	ler	(Print Title)
53	878 C Solutions through Science	onoultanse, Ltd. on & Engineering	
The attached Verification Sur 10 11 07 criteria as contained in the UA	, The results of th		S. EPA, Region V o ate that the verificatio
Authorization is hereby granted	i to commence backfill ar	nd restoration w	ork at this excavation
Signed:	n for Juneta	Simon	Date 10/1/02
Larry Jeasen	7.		(Print Name)
Server Health	Physicist		(Print Title)
For U.S. EPA Region V	<i>1</i>	•	

PHASE & Exelusion zone

Area Identification: # - 19 5000	145 1-5
Date of Verification Survey: 8-1-02	
Time of Verification Survey 8:00	am/ɔm
The above-described exceptation was surveyed a survey indicated that all soils have been remove Criteria.	
Documents pertaining to this survey are attached	for review and approval by the U.S. EPA.
Like Andrews	Date 8-1-02
Tothe Andrewson	
Records Monager	(Print Title)
SE Manufacture	STS Co continuin, Ltd. 1 Sature: & Tinglessing
The attached Vertication Survey documents we O/2/02. The result criteries dontained in the UAO, have been met.	re reviewed by U.S. EPA, Region V of of this survey indicate that the verification
signed:	D-ta 8/2/02
Vecneta Simon	•• · · · • · • · • · • · • · • · • · •
(An-Chie	in the second se
For U.S. EPA Region V	

PHASE & Exchusion zone

Area Identification: M-T, 8-10	
Date of Verification Survey: 8-7-02	
Time of Verification Survey 2:00 PM	am/pm
The above-described excavation was surveyed at the time survey indicated that all soils have been removed as requirecriteria.	
Documents pertaining to this survey are attached for review a	nd approval by the U.S. EPA.
Signed:	Date <u>4-8-02</u>
Tota Andrewson Records Mannyan	(Print Name)
Records Mannyan	(Print Title)
STS Consultar Solutions through Balance & Eng	ntm, Ltd.
EE STS Consultar	hearing do by U.S. EPA, Region V
The attached Verification Survey documents were reviewed. The results of this sur	in, Ltd. Intenting and by U.S. EPA, Region V vey indicate that the verificati
The attached Verification Survey documents were reviewed. The results of this survey criteria as contained in the UAO, have been met. Authorization is hereby granted to commence backfill and results of the survey of the surv	toration work at this excavation
The attached Verification Survey documents were reviewed in the UAO, have been met. Authorization is hereby granted to commence backfill and reserved.	toration work at this excavation
The attached Verification Survey documents were reviewed. The results of this surcriteria as contained in the UAO, have been met. Authorization is hereby granted to commence backfill and results of the surcriteria as contained in the UAO, have been met.	toration work at this excavation Only Selection (Print Name)
The attached Verification Survey documents were reviewed. The results of this surcriteria as contained in the UAO, have been met. Authorization is hereby granted to commence backfill and results of the Signed S	toration work at this excavation Only Selection (Print Name)

	FORM 223-1	•
NOTIFICATION (OF SUCCESSFUL VERII	FICATION SURVEY PHASE AREA JE
rea Identification: <u> </u>	5, 9-12	Exclusion zone
ate of Verification Survey:		•
	9:000	am/pm
		me and date indicated above. The quired by the Site Removal Action
ocuments pertaining to this aur	vey are attached for revie	w and approval by the U.S. EPA.
igned:		
for he		Date 8:21-02
John Al	Legon	(Print Name)
Theores ma	WASER	(Print Title)
SA	STS Com Solutions through Science (reflents, Lini. I Engineering
he stached Vertication Survey \$ 21002 riteriales contained in the UAO.	The results of this	ewed by U.S. EPA, Region V o survey indicate that the verification
uthorization is hereby granted t	p commence backfill and	restoration work at this excevation
ignedî		
Veeneta Simo		Date \$ 21/62.
VEERETA Simo		(Print Name)
Con-Scene Cover	•	(Print Title)
	-	-

For U.S. EPA Region V



Phase II Exclusion Zone

PHASE II Brilusion Zone

FORM 223-1 NOTIFICATION OF SUCCESSFUL YERIFIGATION SURVEY

Area Identification:	-A.5	2.5-3.		
Area Identification: ###	rey: 3	7.02		
Time of Verification Sun				am/pm
The above-described e survey indicated that al Criteria.	xcavation w l soils have	as surveyed at the been removed as	e time and date s required by the	indicated above. To Site Removal Action
Documents pertaining to	this survey	are attached for n	eview and approv	al by the U.S. EPA.
Signed:	led			Date <u>\$-8-02</u>
John A	Ander	yon		(Print Name)
Records M	war.	KN-		(Print Title)
EZ	,	STS Solutions through Scie	Consultants, Ltd. nce & Engineering	
The attached Verification	on Survey	documents were The results of	reviswed by U.S this survey indica	. EPA, Region V e
criteria as contained in t	he UAO, ha	ve been met.		
Authorization is hereby	granted to c	ommence backfill	and restoration w	ork at this excavatio
Signed	_		•	- (/
Jesnet !	Simon		منطانة استهيزت بيوريساناه بيرور	DIES 3/8/CZ
Veeneta	Simin			_ (Print Name)
On-Scene	Coordu	10408		(Prior Title)
For U.S. EPA Region V				

Page 4

PHASE AS Exclusion 2000

Area Identification:	E-F, 1-2.5	
Date of Verification Sur	vey: 8-7-02	
Time of Verification Sur	vey 2:00 pm	am/pm
The above-described esurvey indicated that a Criteria.	excevation was surveyed at the	time and date indicated above. To required by the Site Removal Action
Documents pertaining t	o this survey are attached for rev	few and approval by the U.S. EPA.
Signed: Signed: Toller	al	Date \$-8-02
JOHN !	Anderson	(Print Name)
Leconos M		(Print Title)
<u>ES</u>		moutents, Lid. o & Taginoutrg
The stacked Verifical	ion Survey documents were re The results of the UAO, have been met.	viewed by U.S. EPA, Region V is survey indicate that the verificati
Authorization is hereby	granted to commence backfit an	id restoration work at this excavation
Signed:	Simen	Date 8/0/02
Verreta	Simon	(Print Name)
On-Scene	Coordinator	(Print Title)
For U.S. EPA Region \	<i>i</i>	

FORM 223-1

The successful	IL VERIFICATION SURVEY
Area Identification: E-F, 13.5-1	5 Phon IT
Cate of Verification survey: 8-7-02	S Phon II Eachr
Tims of Verification Survey 2:00 Av	am/pm
The above-described excavation was surveyed a survey indicated that all soils have been removed Criteria.	A Abo Alvers
Documents pertaining to this survey are attached for	or review and approval by the U.S. EPA.
Signed Certain.	Date 8-8-02
Tolla Andonson	(Print Name)
Resource MANAGER	(Print Title)
	BTE Consultants, Ltd. Science & Engineering
he attached Verification Survey documents wer (2000). The results items as contained in the UAO, have been met.	re reviewed by U.S. EPA, Region V of this survey indicate that the verification
uthorization is hereby granted to commence back	fill and restoration work at this excevatio
Veneta Simon	Date \$\frac{\delta \delta /c2}{2}
Vernetz Simon	(Print Name)
On-Scene Covedinator	(Print Title)
for U.S. EPA Region V	

Page 4

}

Area Kentification: #-T	8-10	Phase II
Cate of Ventication Survey:		Exclu
Time of Verification Survey		em/ pm
The above-described excavation survey indicated that all solis his Criteria.	n was surveyed at the time ave been removed as requi	and date indicated above. ired by the Site Removal Ac
Documents pertaining to this sur	vey are attached for review a	and approval by the U.S. EPA
Signed: Soften Carlo		Date 9-9-0
Tolla And	horon	(Print Name)
Lecases Monn	78A	(Print Tite)
SE	878 Consolia Balutana Grough Salama & Esp	-
The attached Verification Survices as contained in the UAO.		
Authorization is hereby granted t	o commence backfill and res	itoration work at this excevati
Helmin Simon		Del 8/8/12
Verneta Simon		(Print Name)
On-Scene Cooks	linator.	(Print Title)
For U.S. EPA Region !!		
		٠.
	Page 4	•

57	Tr 01 12	PHASE AREA I
Area Identification:	1.5 7-12	Exclusion zona
Date of Verification Survey:	8-21-02	
Time of Verification Survey	9:000	am/pm
		time and date indicated above. The required by the Site Removal Action
Documents pertaining to this au	urvey are attached for rev	lew and approval by the U.S. EPA.
Signed:	•	
feh he		Date 8:21-02
John And TREORDS MI	Season	(Print Name)
TRUORUS MI	wasker_	(Print Title)
	NTS Co Selutions through Solena	ensultante, Ltd.
The stached Verification Sun 5 2 5 5 criteria as contained in the UAC	vey documents were re The results of th	viewed by U.S. EPA, Region V on its survey indicate that the verification
Authorization is hereby granted	to commence backfill an	d restoration work at this excavation
Signed)		
Thereby Sins	>	Date \$/21/62.
VERNETA Simo	· ·	(Print Name)
Cn-Scene Cove	dinater	(Print Title)
For U.S. EPA Region V		•
For U.S. EPA Region V	• •	

Area Identification:	ATION OF SUCCESSFUL VERI	Exclusion 2
	W. 9-19-02	
Time of Verification Surv	W 12:00 Pm	am/
	cevation was surveyed at the the soils have been removed as re	
Documents pertaining to	this survey are attached for revie	w and approval by the U.S.
Signed:		
Til	- Mil	Date <u>9-2</u>
D.	n Andrew Nonegar	(Print Nerr
RECO	NOS Manager	(Print Tit
SC	STS Con-	
		and he II O FDA Doole
The attached Verticatio	n Survey documents were revi	ewed by U.S. EPA, Regk
4/20/02	n Survey documents were 16Vi . The results of this ne UAO, have been mot.	survey indicate that the ver
CIDO CZ- criteria as contained in th	The results of this	survey indicate that the ve
CI 20 C2- criteria as confeined in th Authorization is hereby g	ne UAO, have been met.	survey indicate that the ve
criteria as confeined in the Authorization is hereby go Signed:	ne UAO, have been met.	survey indicate that the ve
CI 20 C2- criteria as contained in th	ne UAO, have been met.	restoration work at this exc

Phose II EZ

FORM 223-1 NOTIFICATION OF SUCCESSFUL VERIFICATION SURVEY

ime of Verification Survey The above-described expanation was surveyed at the time and data indicate invey indicated that all soils have been removed as required by the Site Registeria. The following to this survey are attached for review and approval by the gned: The following survey are attached for review and approval by the gned: The following survey are attached for review and approval by the gned: The following survey are attached for review and approval by the gned: The following survey are attached for review and approval by the gned: The following survey are attached for review and approval by the gned: The following survey are attached for review and approval by the gned: The following survey are attached for review and approval by the gned: The following survey are attached for review and approval by the gned: The following survey are attached for review and approval by the gned: The following survey are attached for review and approval by the gned: The following survey are attached for review and approval by the gned: The following survey are attached for review and approval by the gned: The following survey are attached for review and approval by the gned: The following survey are attached for review and approval by the gned: The following survey are attached for review and approval by the gned: The following survey are attached for review and approval by the gned: The following survey are attached for review and approval by the gned: The following survey are attached for review and approval by the gned: The following survey are attached for review and approval by the gned: The following survey are attached for review and approval by the gned: The following survey are attached for review and approval by the gned: The following survey are attached for review and approval by the gned: The following survey are attached for review and approval by the gned: The following survey are attached for review and approval by the gned: The following survey are attached for review are s	• W.S. EPA. 3-26-0
the above-described excevation was surveyed at the time and data indicate invey indicated that all soils have been removed as required by the Site Renteria. Cocuments pertaining to this survey are attached for review and approval by the gred: The Andrews (Printing Consultants, Ltd.) Solutions are used Science & Engineering The attached Verification Survey documents were reviewed by U.S. EPA, Oug. 27, 2002. The results of this survey indicate that the survey indicate the survey indicate that the survey indicate the survey indic	ed above The emoval Actor of U.S. EPA.
comments pertaining to this survey are attached for review and approval by the gned: Date E Tolky Andrew (Print Consultants, Ltd. Solutions trough Science & Engineering The attached Verification Survey documents were reviewed by U.S. EPA The results of this survey indicate that the contract of the survey indicate that the contract of the con	• W.S. EPA. 3-26-0
gned: John Andrew Consultante, Ltd. Solutions trough Science & Engineering The attached Verification Survey documents were reviewed by U.S. EPA, Oug. 27, 2002. The results of this survey indicate that the consultante of the consultante o	3-26-0
Date E Tolka Andrew (Print Luconos Managem (P EE TE Committente, Ltd. Solutions tropush Science & Engineering ne attached Verification Survey documents were reviewed by U.S. EPA, Que 27, 2002. The results of this survey indicate that the survey indicate the survey in	3-26-0 nt Name) rint Title)
Total Andrews (Printing Committents, Ltd. Solutions through Science & Engineering the altached Verification Survey documents were reviewed by U.S. EPA, Oug. 27, 2002. The results of this survey indicate that the survey indicate the survey indicate that the survey indicate the survey	3-26-0 nt Name) rint Title)
Total Andrews (Printing Committents, Ltd. Solutions through Science & Engineering the altached Verification Survey documents were reviewed by U.S. EPA, Oug. 27, 2002. The results of this survey indicate that the survey indicate the survey indicate that the survey indicate the survey	nt Name) rint Title)
statements, Ltd. Solutions through Science & Engineering the attached Verification Survey documents were reviewed by U.S. EPA, Oug. 27, 2002. The results of this survey indicate that the survey indicate the survey indicate that the survey indicate that the survey indicate t	rint Tive)
statements, Ltd. Solutions through Science & Engineering the attached Verification Survey documents were reviewed by U.S. EPA, Oug. 27, 2002. The results of this survey indicate that the survey indicate the survey indicate that the survey indicate that the survey indicate t	
teria as contained in the UAO, have been met.	Region V c
	ine vernicalid
uthorization is hereby granted to commence backfill and restoration work at th	is excavation
gned:	
Fredrick a Micke Dolo &	3/27/02
FREDRICK A. MICKE (Prin	
AN COFILE MADES HATTON	it Name)
ON-SCENE COORDINATOR (P)	nt Name) rint Title)

Page 4

HOS 27 DE 19164 PRUMITEUM LEGIT

FORM 223-1 NOTIFICATION OF SUCCESSFUL VERIFICATION SURVEY AREA IN P.

Area Identification: L.5-N, 7-10-5 Excession Date of Verification Survey: 9-11-02

Time of Verification Survey 9:00 Amo Time of Verification Survey ___ ant/pm The above-described excavation was surveyed at the time and data indicated above. The survey indicated that all soils have been removed as required by the Site Removal Action Criteria. Documents partaining to this survey are attached for review and approval by the U.S. EPA. Signed: Hyperson (Print Name) (Print Title) STS Completely, Ltd. air Salance & Brain The attached/Vertification Survey documents were reviewed by U.S. EPA, Region V o ___. The maults of this survey indicate that the varificatio criteria as contained in the UAO, have been met. Authorization is hereby granted to commence backfill and restoration work at this excavation Signed: (Print Name)

(Print Title)

ON-SCENE COORDINATOR

For U.S. EPA Region V

FORM 223-1
NOTIFICATION OF SUCCESSFUL VERIFICATION SURVEY Area III
Area Identification: 1-1.75, 5.75-6.5 PART E.Z.
Date of Verification Survey: 9-5-02
Time of Verification Survey 9-00 am/pm
The above-described excavation was surveyed at the time and date indicated above. The survey indicated that all soils have been removed as required by the Site Removal Action Criteria.
Documents pertaining to this survey are attached for review and approval by the U.S. EPA.
Signed:
John later - Date 9.5-02
John Brodings (Print Name)
Records Mongan (Print Title)
STB Consultants, Ltd. Solutions through Solitons & Engineering
The attached Verification Survey documents were reviewed by U.S. EPA, Region V o The results of this survey indicate that the varification
The attached Verification Survey documents were reviewed by U.S. EPA, Region V of The results of this survey indicate that the varification criteria as contained in the UAO, have been met. Authorization is hereby granted to commence backfill and restoration work at this excavation Signed:
The attached Verification Survey documents were reviewed by U.S. EPA, Region V on The results of this survey indicate that the varification criteria as contained in the UAO, have been met. Authorization is hereby granted to commence backfill and restoration work at this excavation
The attached Verification Survey documents were reviewed by U.S. EPA, Region V of The results of this survey indicate that the varification criteria as contained in the UAO, have been met. Authorization is hereby granted to commence backfill and restoration work at this excavation Signed:

For U.S. EPA Region V

Page 4

Service Service Service Management (M.S.)



Phase II Final

	Mr I Phone Il Fine
Pate of Verification Survey: 8-7-02	
ime of Verification Survey 2:00 Pm	am/pm
he above-described excavation was surveyed a urvey indicated that all soits have been removed riteria.	t the time and date indicated above. d as required by the Site Removal A
ocuments pertaining to this survey are attached for	or review and approval by the U.S. EP
gned:	·
for lat	Date 8-8-0
John Anderson	(Print Name)
Records MANAYAN	(Print Title)
	STS Consultants, Ltd. Science & Engineering
teria as contained in the UAO, have been met.	re reviewed by U.S. EPA, Region \ of this survey indicate that the verific
teria as contained in the UAO, have been met.	of this survey indicate that the verifica
teria as contained in the UAO, have been met.	of this survey indicate that the verification of this survey indicate that the verification work at this excava
The results iteria as contained in the UAO, have been met. uthorization is hereby granted to commence back	fill and restoration work at this excava
The results iteria as contained in the UAO, have been met. Uthorization is hereby granted to commence back gned: Vinces Simo	of this survey indicate that the verifica
The results teria as contained in the UAO, have been met uthorization is hereby granted to commence back gned: Verneta Simo	fill and restoration work at this excava Date 8/8/02 (Phin Name)
The results teria as contained in the UAO, have been met. Ithorization is hereby granted to commence back gned: Very Simon On-Scene Coordinater	fill and restoration work at this excava Date 8/8/02 (Phin Name)

ves Identification: A-B 15-21 Alle	I PHARAST FINA
ate ra Seritabilan Survey: 8-8-02	
me of Verification Survey	am/pm
ಟ <u>ಜನಿನೀತ-ಪ್ರೊಂಡಲ್ಲಿಗು. </u>	
ocuments pertaining to this survey are attached for revi	iew and approval by the U.S. EPA.
Joth Hodgeson	Data 8-8-02
John Andrew	(Print Name)
RACORUS MANAGER	(Print Title)
STE Co. Solution Strongs Solution	nourons, Ltd. A Bryknostig
the attached Verification Survey documents were revened by the second of the South of the Results of the Results contained in the UAO; have been met.	is survey indicate that the verification
gned)	Date 8/4/02
Vernette Simon	(Print Name)
On Scrne Coordinate	(Print Title)
or U.S. EPA Region V	•
termina ferma 11 Page 1	•••

Western Sum. Follows 222.

USEPA REGIDN 5

ID:312-353-9176 OCT 01'02 9:20 No.006 P.04

	NOTIFICATION	OF SUCCES	SPUL VER	IFICATION S	JAVEY PHANE ZZ
Area Identificat	ion: A.C.	5.21-	22	FINAL	SAND
	ition Survey:				
Time of Vertice	Ition Survey	1:00	0	,	am/pm
The above-des	oribed excavatio	n was survey	ed at the	time and date required by th	Indicated above. The Site Removal Action
Documents per	taining to this su	rvey are attacl	had for rev	iew and appro	val by the U.S. EPA.
Signed:					
	ch h				Date 10-1-01
77	Un And	laser			(Print Name)
Ru	eunos A	Univery a	n_		(Print Title)
S		Bolytons 1		imaulturitz, Ltd. 5 & Singinooring	
10/11		The M	sults of th		S. EPA, Region V o ate that the verificatio
Authorization is	hereby granted	to commence	backfill an	d restoration v	vork at this excevation
Signed:	encer for	Verela	Sum		Date /s/s/62
harry .	Lealth	Physic	ıs 1		(Print Title)
>64/01		7			
For U.S. EPA F				•	
For U.S. EPA F				•	

Page 4

NOTIF	FORM 2 FICATION OF SUCCESSFI	JL-VERIFICATION S	URVEY
Area Identification:	1-D, 22-25	AREA II	PHOSETT
	irvey: 10-1-0		
	Irvey 1:00 pm		am/pm
The above-described survey indicated that a Criteria.	excevation was surveyed all suits have been remove	at the time and date ed as required by th	indicated above. The e Site Removal Action
Documents pertaining	to this survey are attached	for review and appro	val by the U.S. EPA.
Signed:	4	_	Date 10-1-02
Jetha	Andreson		(Print Name)
•		2	
สส		STS Completes, LSL	
<u>Fr.</u>		h Balanco & Engineering	
1012102	tion Survey documents w The result the UAO, have been met.	are reviewed by U.S	5. EPA, Region V o
criteria as contained in	tion Survey documents w	ere reviewed by U.S ts of this survey indic	nte that the verificatio
10/2-10-72- criterial as contained in Authorization is hereby Signeds	tion Survey documents w The result the UAO, have been met.	are reviewed by U.Sts of this survey indicates and restoration w	nte that the verification
1012 CZ- criterial as contained in Authorization is hereby Signed:	tion Survey documents w. The result the UAO, have been met. y granted to commence bac	are reviewed by U.Sts of this survey indicates and restoration v	the that the verification of at this excavation $\frac{102/c2}{c}$
10/2/02- criterial as contained in Authorization is hereby Signed 7/000000000000000000000000000000000000	tion Survey documents we the UAO, have been met. y granted to commence back	are reviewed by U.Sts of this survey indicates and restoration w	nte that the verification work at this excavation Date 192/02 (Print Name)
1012 102- criterial as contained in Authorization is hereby Signedy 7/6/2004	the UAO, have been met. y granted to commence bac Sinch Cottled inadion	are reviewed by U.Sts of this survey indicates and restoration w	nte that the verification work at this excavation Date 192/02 (Print Name)

Page 4

USEPA REGION 5

ID:312-353-9176

OCT 01'02 9:21 NO.UU6 F.U5

FORM 223-1	BIRIPATIAN CHBUCV
NOTIFICATION OF SUCCESSFUL VE	AREN IL PHOSE II
NOTIFICATION OF SUCCESSFUL VE Area Identification: A-D, 25-27	First SANO
Date of Verification Survey: 9.30.02	
Time of Verification Survey	≝m/pm
The above-described excavation was surveyed at the survey indicated that all solls have been removed as Criteria.	
Documents pertaining to this survey are attached for re	eview and approval by the U.S. EPA.
Signed:	•
fre but	Date 10-1-02
Jeth Bredanson	(Print Name)
PREDIOS MANAGEN	
ETB Strategy and an address through delay	Considiants, List, not & Engineering
The attached Verification Survey documents were reported to the criteria as contained in the UAO, have been met.	
Authorization is hereby granted to commence backfill a	end restoration work at this excavation
Sanus Jensen for lameto Som	a Date 10/1/02
Lader there	/Bulat Almana)
Lader there	

AUG-28-82 12:64 PROM: TECH TEST

10.3123532034



FORM 223-1 NOTIFICATION OF SUCCESSFUL VERIFICATION SURVEY Area Identification: B-C, 1-12 Date of Verification Survey: 7-26-02 Time of Verification Survey The above-described excavation was surveyed at the time and date indicated above. The survey indicated that all soils have been removed as required by the Site Removal Action Criteria. Documents pertaining to this survey are attached for review and approval by the U.S. EPA. Signed Print Name) (Print Title) Behricht Braugh Science & Engl The attached Verification Survey documents were reviewed by U.S. EPA, Region V o 5/28/02. The results of this survey indicate that the verification criteria as contained in the UAO, have been met. Authorization is hereby granted to commence backfill and restoration work at this exceptation Signed: ON - SCENE COORDINATOR (Print Title) For U.S. EPA Region V

MALINA PRIMA III.

Area Identification: D-C, 6-12	ASLAN E PHONE IT Finn
Date of Verification Survey: 2-26-	
Time of Verification Survey	am/pm
The above-described excavation was surveyed survey indicated that all soils have been remo- Criteria.	
Documents pertaining to this survey are attached	d for review and approval by the U.S. EPA.
Signed:	Date 2-30-02
JOHN ANDERSON	(Print Name)
Prechos Manage	(Print Title)
ER Bolutions thro	BTS Correultants, Ltd. sugh Relence & Engineering
The attached Verification Survey documents 1/30/07 The resident as contained in the UAO, have been me	ults of this survey indicate that the verification
Authorization is hereby granted to commence be	ackfill and restoration work at this excavatio
Signed: Janeto Sam	Date 7/30/02
Varneta Simon	
On-Siene Coordinator	(Print Title)
For U.S. EPA Region V	
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Page 4

Vincent or Buryas Brasinskin III.

res Identification:	3-C, 6-12 (B) A	MAN I PHOSE IT
ate of Verification Surve	v. 7.26.02	Fish
ne of Verification Surva	11:00 m	am/pm
_	cavation was surveyed at the time as soils have been removed as required	
cuments pertaining to t	this survey are attached for review and	d approval by the U.S. EPA
ned like La		Date 7-30-0
JOHN AN	danso~	(Print Name)
RACORDS	Monoger	(Print Title)
53	678 Consultante Balatters Brough Batanes & Bryins	•
7/30/42	Survey documents were reviewed. The results of this survey UAO, have been met.	
thorization is hereby gri	anted to commence backfill and rector	ration work at this excavation
ned: Veneta 5	S,	Date 7/30/02
Verseta !	Smin Smin	(Print Name)
On-Scene	Coordinater	(Print Title)
r U.S. EPA Region V	•	

Area Identification: 15-C	1-6 (C) ANEN I	PHASE IL FINIS
	7-26-02	
Time of Verification Survey	11:00	am/pm
	tion was surveyed at the time a have been removed as require	
Documents pertaining to this s	survey are attached for raview an	nd approval by the U.S. EPA.
Signed:	<u></u>	Date 2-30-02
JoHn Anda	7	(Print Name)
Preoros.		(Print Titie)
E3	STS Consultant Solutions through Science & Engin	•
The attached Varification Su 7/30/02 criteria as contained in the UA	The results of this surv	t by U.S. EPA, Region V crey indicate that the verification
•	id to commence backfill and resto	pration work at this excavatio
Signed: Varuely 5. 5	· ,nn	Date 7/30/02
Veeneta J. S.	imen	(Print Name)
On-Scene Cook	linatue	(Print Title)
For U.S. EPA Region V		0

Area identification:	B-C, 12-16	ran I litere II
Date of Verification Sun	ver. <u>8-1-0-2</u>	. •
	8:00 m	amon
. -	4: 章 ジェ surveyed at 情を 電 3: 3: マンフ an removed 現象 (30)	ns end date indicated above. T Julied by the Site Removal Act
Occupation of	on the amount of the second	v and eporgoval by the U.S. EPA
Egned Las las	Andanson	Date 8-1-0
Joth ,	Andanson	(Print Name)
DECOUS	MANAGER	(Print Title)
<u> </u>	4	disols, List. Engineering
The attached Verification of the Control of the Con	on Survey documents were ravie The results of tals the UAO, have been met.	wed by U.S. EPA, Region V survey indicate that the verificat
Authorization is hereby	granted to commence becidit at dir	estoration work at this excavate
Signed:)	Simi	Date 8/2/62
Yeucha		(Print Name)
On-Scene	Condinator	(Print Title)
for U.S. EPA Replon V		•

PAGE

Area Identification: 15-6	16-21 ARGA	I Potosa II Fixel
Date of Verification Survey	8-1-02	
Time of Varification Survey	8:00 m	am/pm
The above-described exceurvey indicated that all sometimes.	evation was surveyed at the time of the bave need as required as required.	and date indicated above. The red by the Site Removal Action
Occuments pertaining to th	is survey are attached for raview a	and approval by the U.S. EPA.
ilgned		
<i></i>		Date 8-1-02
Jetta And	anson	(Print Name)
RACONES &	MONAGER	(Print Title)
C3		
	STE Consultan Solvtions through Science & Engl	• • •
8/2/02 riteria as contained in the	Survey documents were reviews The results of this sur UAO, have been met.	vey indicate that the verificatic
igned: Verneto	Simon	Date 8/2/6>
VERNEM	Simon	(Print Name)
	Cosednator	(Print Title)
or U.S. EPA Region V		
-		
		•

Area Identification: C-h 1-10 (A)	
Date of Verification Survey: 2-26	02
Time of Verification Survey	am/pm
	ed at the time and date indicated above. The loved as required by the Site Removal Action
Documents pertaining to this survey are attach	ed for review and approval by the U.S. EPA
Signed:	Date <u>2-36-</u> ac
JoHn Androsen	(Print Name)
ZNEERDS MANAG	(Print This)
53	
enter t	STS Consultante, Ltd
The attached Verification Survey documents 17/30/02. The recriteria as contained in the UAO, have been m	were reviewed by U.S. EPA, Region V c
The attached Verification Survey documents	were reviewed by U.S. EPA, Region V caults of this survey indicate that the verifications.
The attached Verification Survey documents 7/30/02. The re- criteria as contained in the UAO, have been m Authorization is hereby granted to commence. Signed:	were reviewed by U.S. EPA, Region V caults of this survey indicate that the verifications.
The attached Verification Survey documents 7/30/02. The re- criteria as contained in the UAO, have been m Authorization is hereby granted to commence. Signed:	were reviewed by U.S. EPA, Region V caults of this survey indicate that the verifications.
The attached Verification Survey documents 7/30/02 The re- criteria as contained in the UAO, have been m Authorization is hereby granted to commence	were reviewed by U.S. EPA. Region V caults of this survey indicate that the verification. backfill and restoration work at this excavation
The attached Verification Survey documents 7/30/02. The re- criteria as contained in the UAO, have been m Authorization is hereby granted to commence Signed: 1/2016/15 5.5	were reviewed by U.S. EPA. Region V caults of this survey indicate that the verification. backfill and restoration work at this excavation. Date 1/30/c2
The attached Verification Survey documents 7/30/02. The re- criteria as contained in the UAO, have been m Authorization is hereby granted to commence Signed: 1/Cencina J Simon	were reviewed by U.S. EPA. Region V caults of this survey indicate that the verification to backfill and restoration work at this excavation. Date 1/30/c2 (Print Name)
The attached Verification Survey documents 7/30/02 The re- criteria as contained in the UAO, have been m Authorization is hereby granted to commence Signed: 1/County Simon On-Scene Coordinatic	were reviewed by U.S. EPA. Region V caults of this survey indicate that the verification to backfill and restoration work at this excavation. Date 1/30/c2 (Print Name)

Area Identification:	(B) MARIO I, PHYSAIT FINA
Date of Verification Survey: 2-20	6-02
Time of Verification Survey	_am/pm
The above-described excevation was survively indicated that all soils have been ricriteria.	eyed at the time and date indicated above. The emoved as required by the Site Removal Action
Documents pertaining to this survey are atte	ached for review and approval by the U.S. EPA
Signed:	
	Date 2-30-02
JoHn Andanson	(Print Name)
LACOLDS MINNE	(Print Title)
EF BOLING	STS Consultants, Ltd. ns Strough Science & Engineering
The attached Verification Survey docume	ints were reviewed by U.S. EPA, Region V corresults of this survey indicate that the verification met.
Authorization is hereby granted to commen	ce backfill and restoration work at this excavation
Signed: Junety 5. Smn	Date 7/34(2
Vaenata J Smin	(Print Name)
On Scene Goodination	(Pdnt Title)
For U.S. EPA Region V	

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AUG-26-62 12:64 FROM: TECH TEST

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PAGE 2/4

FORM 223-1 NOTIFICATION OF SUCCESSFUL VERIFICATION SURVEY Area Identification: Date of Verification Survey: am/pm Time of Verification Survey _ The above-described excavation was surveyed at the time and date indicated above. The survey indicated that all soils have been removed as required by the Site Removal Action Criteria. Documents pentalning to this survey are attached for review and approval by the U.S. EPA. Signed: ru brout Buisto & Bro The attached Verification Survey documents were reviewed by U.S. EPA, Region V o 8/28/02 . The results of this survey indicate that the verification criteria as contained in the UAO, have been met. Authorization is hereby granted to commence backful and restoration work at this excevation Signed: COORDINATOR (Print Title) For U.S. EPA Region V

Version Russe Processor 223-1

ID:3123532034

PAGE 2/4

Date of Verification Survey: 8-30-02 Time of Verification Survey 9:00	(5000) sm/om
Date of Verification Survey: 8-30-02 Time of Verification Survey 9:00	*m/om
Time of Verification Survey 9:00	*miom
The state of demandance accomplished assessment and the slower will	airy
The above-described excavation was surveyed at the time an survey indicated that all soils have been removed as required Criteria.	
Documents pertaining to this survey are attached for review and	approval by the U.S. EPA.
Signed:	
Joh lat-	Date 8:30.02
John Andraga	(Print Name)
RESORDS MONTHAN	(Print Title)
STE densultants, Building Strough Science & Engineer The attached Verification Survey documents were reviewed	by U.S. EPA. Region V o
The results of this surver riterial as dontained in the UAO, have been met.	y indicate that the verificatio
Authorization is hereby granted to commence backfill and restor	ation work at this excavation
	Date 8/30/c2
Vernen Simon	(Print Name)
	(Print Title)
On-Scene Cookdinater	A THE STATE OF THE

MOTH MATION OF JUCKE		TICATION SUK	ÉΥ .
NOTIFICATION OF SUCCE	1-22	FINAL	Soul
Date of Verification Survey: 10 - /			
			
Time of Verification Survey			am/pm
The above-described excavation was surve survey indicated that all soils have been re interia.	eyed at the ti emoved as re	rne and date ind equired by the Si	icated above. to Removal Ac
Occuments pertaining to this survey are atta	ched for revie	rw and approval (ry the U.S. EPA
Signed:		•	
Jak lad		De	te 10-1-6
Tota Anderso	<u> </u>		(Print Name)
RECORDS Monry	en _		(Print Title)
53	578 Con	relizati, LSL. Lingtowing	
	Sweeph Solomo	- Gratusta	PA, Region V
	Sweeph Solomo	- Gratusta	PA, Region V
The attached Verification Survey document (1/2-1/1). The withing as contained in the UAO, have been	its were ray results of this met.	lewed by U.S. E survey indicate:	
The attached Verification Survey document (0) 2- (0)————————————————————————————————————	its were ray results of this met.	lewed by U.S. E survey indicate:	
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UNMA 15:00 20-20-17

NOTIFICATION	FORM 223-1 OF SUCCESSFUL VERIFICATI	On subvey
Area Identification:	ARKING TO STANK	TIL PHASE IT.
Area Identification:	10 1 5	
Date of Verification Survey:		*
Time of Verification Survey	1:00	em/pm
The above-described excavation survey indicated that all soils he Critaria.	n was surveyed at the time and ave been removed as required	d data indicated above. The by the Site Removal Action
Documents pertaining to this sur	vey are attached for review and	approval by the U.S. EPA.
Signed:		
late la		Date 10-1-02
Joth And	druson	(Print Name)
RALONDS	Monnejan	(Print Title)
	•	
हुद	578 Consultants, i Solutions twenty Adence & Engineer	
The strached Verification Survey College as contained in the UAO	sy documents were reviewed. The results of this surve	by U.S. EPA, Region V o
[0]2 02	ay documents were reviewed. The results of this survey, have been met.	by U.S. EPA, Region V or indicate that the verification
criteria as contained in the UAO	ay documents were reviewed. The results of this survey, have been met.	by U.S. EPA, Region V or indicate that the verification
criteria as contained in the UAO Authorization is hereby granted Signed:	ey documents were reviewed to the survey have been met.	by U.S. EPA, Region V or indicate that the verification work at this excavation
criteria as contained in the UAO Authorization is hereby granted Signed:	ay documents were reviewed. The results of this survey, have been met.	by U.S. EPA, Region V or indicate that the verification work at this excavation
criteria as contained in the UAO Authorization is hereby granted Signed: Signed: Signed:	to commence backfill and restore	by U.S. EPA, Region V or indicate that the verification work at this excavation. Date 10/2/02
criteria as contained in the UAO Authorization is hereby granted Signed: Venetror Simor	to commence backfill and restore	by U.S. EPA, Region V or indicate that the verification work at this excavation Date 10/2/02 (Print Name)
criteria as contained in the UAO Authorization is hereby granted Signed: Venetra Simon On-Scene Cook	to commence backfill and restore	by U.S. EPA, Region V or indicate that the verification work at this excavation Date 10/2/02 (Print Name)

		(AREA W FIRAL SEAL)
otte of Venfication Survey:	9-03-02	
ime of Verification Survey	9:30	(Snoom:
	or was surveyed at the time s have been removed as require	
ocuments pensining to thic sc	urvey are attached for review an	nd approval by the U.S. EPA
igned: <i>Causeri</i> I Lucas	ر بر ن	Date 2-20-02
Quenti & Sunas	URRICK	(Print Name)
JE Cordina		(Print Title)
E 3	BTB Consultant Bolullans Byrugh Belance & Engin	
he stached Varification Sun 9/2-7/02 riteria as contained in the UAC	vey cocuments were reviewed. The results of this sur. D, have been met	I by U.S. EPA, Region V or indicate that the verification
uthorization is hereby granted	to commence beakfill and rest	pration work at this excavation
Igned: j		pretion work at this excevation Date 9/27/c2
Verselo Simi	^	Date 9/27/c2
Venuto Simi Veninera Simi On Scene Co	^	Date 9/27/c2_ (Print Name)
Vernera Simi	^	Date 9/27/c2_ (Print Name)

F.U.O.E .

FORM 223-1 NOTIFICATION OF SUCCESSFUL VERIFICATION SURVEY

Date of Verification Survey: 8-8-02 The above-described excavation was surveyed at the time as survey indicated that all soils have been removed as required criteria.	
The above-described excavation was surveyed at the time as surveyed at the time as surveyed at the time as survey indicated that all soils have been removed as required	nd date indicated above.
urvey indicated that all soils have been removed as required	
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ocuments pertaining to this survey are attached for review and	sapproval by the U.S. EP
signed:	Date 8:8-0.
John Andreson	(Print Name)
Da	(Print Title)
878 Consultante, Souriere Prough Selence & Engine	•
he attached Verification Survey documents were reviewed. The results of this surve	by U.S. EPA, Region V by Indicate that the verifica
ritaris as contained in the UAO; have been met.	
Authorization is hereby granted to commence backfill and reator	ration work at this excavat
Wenela Sim	Date <u>8/9/62</u>
Verneta Simon	(Print Name)
_	(Print Title)
On Scrne Coordinator	· · · · · · · · · · · · · · · · · · ·
on Scrne Capital nature	

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varranna Suna, Paresale 223.

	Survey 8:00 m	am/pm
ne above-describ	ed excevation was surveyed at the times at all solls have been removed as req	ne and date indicated above.
cuments pertaini	ng to this survey are attached for review	v and approval by the U.S. EPA
fall .	Andre	Date 8-1-0
Tetta	Andrase-	(Print Name)
Permes	Managur	(Print Title)
	THE STATE OF THE S	
<u> </u>	STE Consul Situatoria Principh Balance & E	itorrita, Ltd.
e attached Verification	STE Commi	tents, Ltd. Engineeting wed by U.S. EPA, Region V
e attached Verification	fication Survey documents were review. The results of this services.	wed by U.S. EPA, Region V survey indicate that the verifical
teris as contained withoutsetton is here	fication Survey documents were review. The results of this at in the UAO, have been met. aby granted to commence backfill and re	wed by U.S. EPA, Region V survey indicate that the verifical
e attached Verification as contained themselver	fication Survey documents were review. The results of this at in the UAO, have been met. aby granted to commence backfill and met.	wed by U.S. EPA. Region V survey indicate that the verifical setoration work at this excavati

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MOG-02"02 07:23 FROM: TECH IES!

Ares Identification: <u>E-L</u> , <u>7-11</u> Anat <u>I</u> , Ph Date of Verification Survey: <u>B-L-02</u> Time of Verification Survey <u>B:00</u>	•
Time of Verification Survey 8:00	
	_am/pm
The above-described excevation was surveyed at the time and date in survey indicated that all soils have been removed as required by the Criteria.	
Documents pertaining to this survey are attached for raview and approve	al by the U.S. EPA.
Signed:	
feh Andrea	Date 8-1-02
Jetta Andreson "	_ (Print Name)
Records Mondayan	(Print Title)
\$178 Consultants, Ltd. Besixtions through Balance & Engineering	
The attached Varification Survey documents were raviewed by U.S.	
The attached Varification Survey documents were reviewed by U.S. COSICS The results of this survey indicate criteria as contained in the UAO, have been met.	e that the verification
Educions brough science & Engreering The attached Varification Survey documents were reviewed by U.S. The results of this survey indicate criteria as contained in the UAO, have been met. Authorization is hereby granted to commence backfill and restoration working the commence backfill and restoration working the commence backfill and restoration working.	e that the verifications of the state of the second of the
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The attached Varification Survey documents were raviewed by U.S. The results of this survey indicate criteria as contained in the UAO, have been met. Authorization is hereby granted to commence backfill and restoration working the commence backfill and restoration working the commence backfill and restoration working.	e that the verifications of the state of the second of the

			II PHOSE IT FOR
Date of Verification	Survey.	8.21-02	
Time of Verification	Survey	9:00	am/pm
			and date indicated above. The d by the Site Removal Action
Documents pertaining	ng to this surve	y are attached for review ar	nd approval by the U.S. EPA.
Signed:			Date 8.21-0
Tolay	1 den		
D.	Andros		
	US MINE	ngra	(Print Title)
<u>E</u> G		878 Consultant Bolutono Ponugh Salanco & Engin	
	_		I but I) C. ESS. Denies V. a.
<u> 512/1/2</u>			rey indicate that the verification
criteria de coditalned	in the UAO, h	The results of this sun ave been met.	rey indicate that the verification
criteria as contained Authorization is here Signed	in the UAO, he	The results of this sun ave been met. commence backfill and rest	rey indicate that the verification
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for lind		Date <u>8.8-0</u>
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RACONUS Money	ran.	(Print Title)
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MISKIZ Interia es contained in the UAC authorization is hereby granted igned: Villusta Simon Viencha Simon), have been met. to commence backfill and resk	Date SISICO (Print Name)

FORM 223-1 NOTIFICATION OF SUCCESSFUL VERIFICATION SURVEY DUTY
NOTIFICATION OF SUCCESSFUL VERIFICATION SURVEY PHASE II Area Identification: 10 1 20 - 24.5 FINAL SAND
Date of Verification Survey: 10-1-02
Time of Verification Surveyam/pm
The above-described excavation was surveyed at the time and date indicated above. The survey indicated that all soils have been removed as required by the Site Removal Action Criteria.
Documents pertaining to this survey are attached for review and approval by the U.S. EPA.
Signed:
fik hot
Il a - Am and a second
RECORDS MANNEYER (Print Title)
FORESTANDS MADE STO Consultants, Lie. Stockers through Science & Engineering
STS Consultants, Line.
The attached Verification Survey documents were reviewed by U.S. EPA, Region V o
The attached Verification Survey documents were reviewed by U.S. EPA, Region V o 1/2-1/2. The results of this survey indicate that the verification criteria as contained in the UAO, have been met. Authorization is hereby granted to commence backfill and restoration work at this excavation signed:
The attached Verification Survey documents were reviewed by U.S. EPA, Region V o 1/2/2 . The results of this survey indicate that the verification criteria as contained in the UAO, have been met. Authorization is hereby granted to commence backfill and restoration work at this excavation signed: Year Signed: Date 1/2/22
The attached Verification Survey documents were reviewed by U.S. EPA, Region V or 102-122. The results of this survey indicate that the verification criteria as contained in the UAO, have been met. Authorization is hereby granted to commence backfill and restoration work at this excavation signed:
The attached Verification Survey documents were reviewed by U.S. EPA, Region V o 10/2/62. The results of this survey indicate that the verification criteria as contained in the UAO, have been met. Authorization is hereby granted to commence backfill and restoration work at this excavation signed: Date 10/2/62

Page 4

FORM 223-1	
NOTIFICATION OF SUCCESSFUL VERIFICATION SURVEY Area Identification: T-1, 21-24.5 Final SA	***
•	WU
Date of Varification Survey: 9-30-02	
Time of Verification Survey	
The above-described excevation was surveyed at the time and date indicated above, survey indicated that all soils have been removed as required by the Site Removal A Criteria.	
Documents pertaining to this survey are attached for review and approval by the U.S. EP	? A.
Signed:	
John bol 0000 10-1	-02
Total Ancheson (Print Name)	
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The strached Verification Survey documents were reviewed by U.S. EPA. Region of the survey indicate that the verific criteria as contained in the UAO, have been met. Authorization is hereby granted to commence backfill and restoration work at this excess stracts.	Oits
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The attached Verification Survey documents were reviewed by U.S. EPA. Region of the survey indicate that the verific criteria as contained in the UAO, have been met. Authorization is hereby granted to commence backfill and restoration work at this exceva Signed: CALL Jensen (Print Name)	Oits:

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Area Identification:	1.5 1-9.5 Man	(SAND)
Date of Verification Survey:	8.26.02	
ime of Verification Survey _	8:30 m	em/pm
	ation was surveyed at the time of the have been removed as require	
ocuments pertaining to this	survey are attached for review ar	nd approval by the U.S. EPA.
Signed:		Date 8 28 02
John Mal	Kaso	(Print Name)
John Mod.		(Print Title)
50	Bokulona through Science & Engl	
8/28/02. Interia as contained in the UA		vey indicate that the verificatio
Signed:		•
Fredrick a.	Micke	Date 8/28/02
FREDRICK A.	MICKE	(Print Name)
ON- SCENE	CORDINATOR	(Print Title)
for U.S. EPA Region V		•
Million Survey President (\$25)	Page 4	

Memo

Tee Rich Berggreen, STS Consultants-Project Coordinator

Freeze Glenn Huber

CC: John Anderson, Records Manager

Deduc 08/28/02

EPA Phase II Sand Samples - 341 E. OhioStreet

Rich:

Attached is a corrected copy of the NUTRANIL Gamma Spec Report from August 26, 2002. The following (3) Phase II sand samples were inadvertently recorded as "1.5-J.5":

Sample Date	Description
8/26/02	\$1434 I-J.5/1-4
8/26/02	S1435 I-J.5/4-7
8/26/02	S1436 I-J.5/7-9.5

These samples and surveys were performed by USEPA, but were recorded in our sample log and chain of custody incorrectly. As a result, Form 223-1 was submitted after sample analysis requesting an incomplete release of the area. This form will need to be resent in order correct this error and obtain proper release. I have already forwarded a copy of this memo and the corrected analysis report to John Anderson so he can contact the USEPA.

Thanks.

Glenn Huber

Nutrani Gamma Spec Report- 341 East Ohio Street Site

Corrected Copy 8/28/02 CAH Exclusion Zone Confirmatory Samples for August 26, 2002

Sample	Sample	Sample	Description	Weight	U-238	U-238	Th-232	Th-232	Ra-226	Ra-226	Total Radium	Total Redium
ID	Date	Group			Activity	Uncertainty	Activity	Uncertainty	Activity	Uncertainty	Activity	Uncertainty
763	8/26/02	EPA	S1437 I.5-K/9.5-11 EPA#1	36.4	4.52	1.39	-0.5	0.38	0.96	0.51	0.46	0.636003145
764	8/26/02	EPA	S1438 I.5-K/9.5-11 EPA#2	37.5	-0.64	2.11	0.6	0.63	1.44	0.84	2.04	1.05
765	8/26/02	EPA	S1439 I.5-K/9.5-11 EPA#3	37.7	-1.35	2.22	0.11	0.65	2.13	0.91	2.24	1.118302285
766	8/26/02	EPA	S1440 I.5-K/9.5-11 EPA#4	36.4	-1.26	1.64	0.91	0.48	1.11	0.64	2.02	0.8
767	8/26/02	EPA	S1441 I.5-K/9.5-11 EPA#5	37.2	1.88	2.15	0.16	0.61	1.37	0.83	1.53	1.030048543
Averag	je Total l	Radium	(Th-232+Ra-226) Co	oncentr	ation fo	r:	1.5-K/	9.5-11 =		1.66	pCi/g	

Phase II Sand Samples 8/26/02

Sam	ple	Sample	Sample	Description	Weight	U-23B	U-238	Th-232	Th-232	Ra-226	Ra-226	Total Radium	Total Radium
ID		Date	Group			Activity	Uncertainty	Activity	Uncertainty	Activity	Uncertainty	Activity	Uncertainty
/			EPA										
1 '	760	8/26/02	Sand	S1434 I-J.5/1-4	35.1	-1.32	1.98	0.05	0.59	1.78	0.82	1.83	1.010198
			EPA			}							
1	761	8/26/02	Sand	S1435 I-J.5/4-7	35.8	-0.38	1.71	0.19	0.5	0.66	0.67	0.85	0.836002392
			EPA				A CONTRACT OF THE PARTY OF THE						
L	762	8/26/02	Sand	S1436 I-J.5/7-9.5	34.4	-2.94	1.49	0.5	0.44	-0.25	0.58	0.25	0.728010989



Nutrani Gamma Spec Report- 341 East Ohio Street Site

Exclusion Zone Confirmatory Samples for August 26, 2002

Sample	Sample	Sample	Description	Weight	U-238	U-238	Th-232	Th-232	Ra-226	Ra-226	Total Radium	Total Radium
ID	Date	Group			Activity	Uncertainty	Activity	Uncertainty	Activity	Uncertainty	Activity	Uncertainty
763	8/26/02	EPA	81437 I.5-K/9.5-11 EPA#1	36.4	4.52	1.39	-0.5	0.38	0.96	0.51	0.46	0.636003145
764			81438 I.6-K/9.6-11 EPA#2	37.5	-0.64	2.11	0.6	0.63	1.44	0.84	2.04	1.05
765			81439 I.5-K/9.5-11 EPA#3	37.7	-1.35	2.22	0.11	0.65	2.13	0.91	2.24	1.118302285
766			81440 I.5-K/9.5-11 EPA#4	38.4	-1.28	1.64	0.91	0.48	1.11	0.64	2.02	0.8
767	8/26/02	EPA	81441 I.6-K/9.6-11 EPA#6	37.2	1.88	2.15	0.16	0.61	1.37	0.83	1.53	1.030048543
Averag	e Total	Radium	(Th-232+Ra-226) Co	oncentr	ation fo	r:	1.5-K/	9.5-11 =		1.66	pCl/g	

Phase II Sand Samples 8/26/02

Sample ID	Sample Date	Sample Group	Description	Weight			Th-232 Activity		Re-226 Activity	Re-226 Uncertainty	Total Radium Activity	Total Redium Uncertainty
		EPA			•						4	
760	8/26/02	Send	81434 I.5-J.5/1-4	35.1	-1.32	1.98	0.05	0.59	1.78	0.82	1.83	1.010198
i		EPA										
761	8/26/02	Send	81435 I.5-J.5/4-7	35.8	-0.38	1.71	0.19	0.5	0.66	0.67	0.85	0.836002392
		EPA										
762	8/26/02	Send	S1436 I.5-J.5/7-9.5	34.4	-2.94	1.49	0.5	0.44	-0.25	0.58	0.25	0.728010989

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PAGE 4/4

NOTIFICATION OF SUCCESSFUL VERIFICATION Area Identification: Date of Verification Survey: Time of Verification Survey The above-described excevation was surveyed at the time are survey indicated that all soils have been removed as required Criteria. Documents pertaining to this survey are attached for review and Signed:	SANIO am/pm
Date of Verification Survey Time of Verification Survey The above-described excevation was surveyed at the time are survey indicated that all soils have been removed as required Criteria. Documents pertaining to this survey are attached for review and	am/pm
The above-described excevation was surveyed at the time are survey indicated that all soils have been removed as required criteria. Documents pertaining to this survey are attached for review and	nd date indicated above.
survey indicated that all soils have been removed as required criteria. Documents pertaining to this survey are attached for review and	nd date indicated above. I by the Site Removal A
Signed:	d approval by the U.S. EP
	•
	Date 8-30.
Total Andrews Mangea	(Print Name)
LACORDS Manyea	(Print Title)
BYS Consultante, Basudane Suraugh Salance & Engine	rering
The attached Verification Survey documents were reviewed	by U.S. EPA, Region
riteria as contained in the UAO, have been met.	IN HIS WILL STO VOI HIS
authorization is hareby granted to commence backfill and restor	ration work at this excava
Signed:) 2/enelo Sinn	Date 8/30/02
Verenota Simon	-1
On-Scene Coordinature	(Print Title)
For U.S. EPA Region V	. •
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	FORM 223-1
NOTIFICATION OF SU	CCESSFUL VERIFICATION SURVEY
Area Identification: X-L, //	-17.5 Final (Some)
Date of Verification Survey:	7-5-02
Time of Verification Survey	:00 am/pm
The above-described excevation was survey indicated that all soils have been Criteria.	surveyed at the time and data indicated above. The en removed as required by the Site Removal Action
Documents pertaining to this survey are	attached for review and approval by the U.S. EPA.
Signed	Date 9-5-02
THIL	(Print Name)
Lacores Maria	(Print Title)
SS.	979 Candulyrin, Lai. Inkilory Evrogh School & Englandry
The attached Verification Survey documents as contained in the UAO, have to	uments were reviewed by U.S. EPA, Region V o The results of this survey indicate that the verificatio been met.
Authorization is hereby granted to comm	mence beckfill and restoration work at this excavation
Signed	
Thereto Simo	Date 9/6/02
Vernoto Simon	
On-Scene Coordinat	→1? (Print Title)
For U.S. EPA Region V	•

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FORM 223-1	
NOTIFICATION OF SUCCESSFUL VERIFICATION	ON SURVEY ON SE FAMEL
Area Identification: I.5- J.5 1-9.5	
Date of Verification Survey: 57-26-02	120 m A
Time of Verification Survey 8:30	
The above-described excavation was surveyed at the time and survey indicated that all soils have been removed as required to Criteria.	date indicated above. The
Documents pertaining to this survey are attached for review and a	pproval by the U.S. EPA
Signed:	
fill bet	Date 8-26-02
Toth Andrason Execus managen	(Print Name)
Promos managen	(Print Title)
	(Francisco)
STE Concultants, Le Solutions Virough Science & Engineerin	4.
53 STS Consultants, Le	v U.S. EPA. Region V o
The attached Verification Survey documents were reviewed by Aug. 27, 2002 The results of this survey	y U.S. EPA, Region V o indicate-that the verification
The attached Verification Survey documents were reviewed by Oug. 27, 2002. The results of this survey criteria as contained in the UAO, have been met. Authorization is hereby granted to commence backfill and restorated signed:	y U.S. EPA, Region V o indicate-that the verification for work at this excavation
The attached Verification Survey documents were reviewed by Oug. 27, 2002. The results of this survey criteria as contained in the UAO, have been met. Authorization is hereby granted to commence backfill and restorated signed:	y U.S. EPA, Region V o indicate-that the verification for work at this excavation
The attached Verification Survey documents were reviewed by Oug. 27, 2002. The results of this survey criteria as contained in the UAO, have been met. Authorization is hereby granted to commence backfill and restorated signed:	y U.S. EPA, Region V o indicate-that the verification
Signed: Solvers wrough Science & Engineers The attached Verification Survey documents were reviewed by The results of this survey criteria as contained in the UAO, have been met. Authorization is hereby granted to commence backfill and restorate Signed: Traduck A Micks	y U.S. EPA, Region V o indicate that the verification from work at this excavation. Date 8/27/02
The attached Verification Survey documents were reviewed by Aug. 27, 2002. The results of this survey criteria as contained in the UAO, have been met. Authorization is hereby granted to commence backfill and restorated in the UAO. FREDRICK A. MICKE	y U.S. EPA, Region V o indicate-that the verification from work at this excavation. Date 8/27/02. (Print Name)
Source whouse Science & Engineers The attached Verification Survey documents were reviewed by Aug. 27, 2002. The results of this survey criteria as contained in the UAO, have been met. Authorization is hereby granted to commence backfill and restorate Signed: Traduck A. Micke FREDRICK A. MICKE ON - SCENE COORDINATOR	y U.S. EPA, Region V o indicate-that the verification from work at this excavation. Date 8/27/02. (Print Name)

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FORM 223	1 4
NOTIFICATION OF SUCCESSFUL	
	BALK SE PHORE IT FINDS
Area Identification: <u>I-7.6</u>	(Somp)
ale of Verification Survey: 826°C	72
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me o: Vernication: Solvey	am/pm
he above-described excavation was surveyed a urvey indicated that all soils have been removed interia	
ocuments pertaining to this survey are attached for	or review and approval by the U.S. EPA
ligned.	
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1 7 11 11 11 11	
LOHN MORASO	(Print Name)
John Modrason Records Monragan	(Print Thie)
C3	
	815 Consultants, Ltd. Actorics & Engineering
The attached Verification Survey documents we 8/28/02 The results	delenes & Engineering The neviewed by U.S. EPA, Region V c
The attached Verification Survey documents we 8/28/02. The results criteria as contained in the UAO, have been met.	se reviewed by U.S. EPA. Region V c of this survey indicate that the verification
ne attached Verification Survey documents we 8/28/02. The results riteria as contained in the UAO, have been met.	se reviewed by U.S. EPA. Region V c of this survey indicate that the verification
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The attached Verification Survey documents we 8/28/02. The results criteria as contained in the UAO, have been met. Authorization is hereby granted to commence back Signed:	se reviewed by U.S. EPA, Region V c of this survey Indicate that the verification work at this excavation
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The attached Verification Survey documents we 8/28/02. The results criteria as contained in the UAO, have been met. Authorization is hereby granted to commence back Signed: Treduck A. Micke. FREDRICK A. MICKE. ON-SCENE COORDINATO	file neviewed by U.S. EPA. Region V c of this survey Indicate that the verification will and restoration work at this excavation. Date 8/28/02 (Print Name)
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FORM 223-1 NOTIFICATION OF SUCCESSFUL VERIFICATION SURVEY

Area Identification.	V/2/-27 (AE)	IN I Finel sand
ate of Verification Survey:		
me of Verification Survey	9:00	
		ne and date indicated above. The uired by the Site Removal Action
ocuments pertaining to this s	urvey are attached for review	and approval by the U.S. EPA.
gned:	Surger EN	Date 9-25-02
CAUMARIA	F. Guerrica	Date 2-25-02 (Print Name)
J. L. Condin		(Print Title)
ne attached Verification Sui	rvey documents were revie	wed by U.S. EPA, Region V survey indicate that the verificati
iteria as contained in the UA	The results of this a	survey indicate that the verificati
·		estoration work at this excevation
gned: ,		
Veeneta Simi		Date 9/27/02. (Print Name)
on-Some Cooldin		(Print Title)
or U.S. EPA Region V		
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(Print Title)

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PAGE 3/4

FORM 223-1 NOTIFICATION OF SUCCESSFUL VERIFICATION SURVEY Date of Verification Survey: Time of Verification Survey The above-described excevation was surveyed at the time and date indicated above. The survey indicated that all soils have been removed as required by the Site Removal Action Criteria. Documents pertaining to this survey are attached for review and approval by the U.S. EPA. Signed: na fireigh Báinne á Br The attached Verification Survey documents were reviewed by U.S. EPA, Region V o . The results of this survey indicate that the verificatio crimina as confished in the UAO, have been met. Authorization is hereby granted to commence backfill and restoration work at this excavation Signed: (Print Name)

For U.S. EPA Region V

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MATERIA & TIAN	FORM 223-1	**************************************
	OF SUCCESSFUL VERIFICA	III , MYSESY AL-
Area Identification:	1-5 Fun	- (smo)
Date of Verification Survey:	9-5-02	
Time of Verification Survey	9:00	am/pm
	on was surveyed at the time a have been removed as require	
Documents penaining to this su	irvey are attached for review an	d approval by the U.S. EPA.
Bigned:		
John Co		Date 2.50
John And	lunga	= (Print Name)
PREONDS	monogen	(Print Title)
<i>(</i> 777-1		
274	STS Censuffant Selutions typugh Stillings & Singh	
criteria as contained in the UAC	The results of this surv), have been met. to commence backfill and resto	ey indicate that the verification
	TO COUNTRINS DECYNICATION TO LABOR	NEROII MOIU EL TIID GYARADDO.
Signed:		Date 9/6/02
VGRNETA SIMON		(Print Name)
On-Scene Coold	indhu.	e (Print Title)
For U.S. EPA Region V		•
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FORM 223-1
NOTIFICATION OF SUCCESSFUL VERIFICATION SURVEY ALLA TIL PAGE IZ
NOTIFICATION OF SUCCESSFUL VERIFICATION SURVEY AREA III PAGE II Area Identification: L-N 5-11 FONL (SAND)
Date of Verification Survey. 9-11-02
Time of Verification Survey 9:00 mm am/pm
The above-described excavation was surveyed at the time and date indicated above. The survey indicated that all soils have been removed as required by the Site Removal Action Criteria.
Documents pertaining to this survey are attached for review and approval by the U.S. EPA.
Signed: Date 7-11-0 Tethe Herrican (Print Name) Records Movembre (Print Title)
Till Manager A
(Print Name)
Ilseands Maragles (Print Title)
STR Consultants, Life. Bolistons tyrough Solonas & Hagassing
The attached Verification Survey documents were reviewed by U.S. EPA, Region V of G/II/OZ
STR Consultants, LAS. Solutions by Explaining The attached Verification Survey documents were reviewed by U.S. EPA, Region V of
The attached Verification Survey documents were reviewed by U.S. EPA, Region V of G/II/OZ
The attached Verification Survey documents were reviewed by U.S. EPA, Region V of 9/11/02. The results of this survey indicate that the verification criteria as contained in the UAO, have been met.
The attached Verification Survey documents were reviewed by U.S. EPA, Region V of 9/11/02. The results of this survey indicate that the verification criteria as contained in the UAO, have been met. Authoriziblen is hereby granted to commence backfill and restoration work at this excavation.
The attached Verification Survey documents were reviewed by U.S. EPA, Region V of \$\frac{G/11/02}{G/11/02}\$. The results of this survey indicate that the verification criteria as contained in the UAO, have been met. Authorization is hereby granted to commence backfill and restoration work at this excavation Signed:
The attached Verification Survey documents were reviewed by U.S. EPA, Region V of \(\frac{G}{II} \) OZ. The results of this survey indicate that the verification criteria as contained in the UAO, have been met. Authorization is hereby granted to commence backfill and restoration work at this excavation signed: Tracket A. Meike. Date \(\frac{9}{II} \) OZ
The attached Verification Survey documents were reviewed by U.S. EPA, Region V of 9/11/02. The results of this survey indicate that the verification criteria as contained in the UAO, have been met. Authorizition to hereby granted to commence backfill and restoration work at this excavation signed: Traduck A. MICKE Date 9/11/02 FREDRICK A. MICKE (Print Name)
The attached Verification Survey documents were reviewed by U.S. EPA, Region V of 9/11/02. The results of this survey indicate that the verification criteria as contained in the UAO, have been met. Authorizition is hereby granted to commence backfill and restoration work at this excavation signed: Traduck A. MICKE Date 9/11/02 FREDRICK A. MICKE (Print Name) ON-SCENE COORDINATOR (Print Title)

USEFR REGIUM 5 . ID:312-353-9176

SEP 24'02 11:41 No.004 P.03

FORM 223-1 NOTIFICATION OF SUCCESSFUL VERIFICATION	1 SURVEY
Area Identification: $L-N$, $11-21+2-4$, $12-21$	Mark II Francis
Date of Verification Survey: 9-19-02	
Time of Verification Survey 12:00 Pm	em/pm
The above-described excavation was surveyed at the time and discretely indicated that all soils have been removed as required by Criteria.	ate indicated above. The the Site Removal Action
Documents pertaining to this survey are attached for review and app	proval by the U.S. EPA.
Signed:	Date 9-20-02
Tothe Andreson	•
	· ·
Rumps Mangan	(Print Title)
EF Solutions through Bolonce & Engineering	(Print Title)
STB Considerate, Ltd.	U.S. EPA, Region V o
The attached Verification Survey documents were reviewed by	U.S. EPA, Region V o
The attached Verification Survey documents were reviewed by The results of this survey incriterials contained in the UAO, have been met. Authorization is hereby granted to commence backfill and restoration signed:	U.S. EPA, Region V o
The attached Verification Survey documents were reviewed by The results of this survey incriterials contained in the UAO, have been met. Authorization is hereby granted to commence backfill and restoration signed:	U.S. EPA, Region V o dicate that the verification in work at this excavation
The attached Verification Survey documents were reviewed by The results of this survey incriterials contained in the UAO, have been met. Authorization is hereby granted to commence backfill and restoration Signed: Sig	U.S. EPA, Region V o dicate that the verification work at this excavation. Date 9/20/12.



APPENDIX F

USEPA Signed Notification of Successful Verification Sampling Forms - Pesticide

Chlordane Immunoassay Field Results Summary 341 East Ohio Street

Date:08/19/2002

Sample Location ¹	Sample Date	Time	Sample Type ²	Chlordane Immunoassay Field Kit ³ (mg/kg)
F-4-VP	07/26/2002	14:30	base	0.534
F-6-VP	07/26/2002	14:35	base	0.437
F-10-VP	07/26/2002	14:50	base	0.068

Notes:

- 1- Sample location is the center point of the 10 X 10 meter grid for base of excavation samples. The location designation for vertical samples indicates the actual sample location.
- 2 Base Composite sample from the base of the excavation (five grab samples from 100 m2 area). Sidewall Vertical composite of five grab samples from excavation side wall.
- 3 The chlordane immunoassay kit does not differentiate between chlordane and other cyclodienes such as heptachlor, refer to method documentation for information on the relative sensitivities.

AC-28-280 12:58 575 Consultants, Ltd. 847 278 255 9:80.00



Project Name/Number. 341 East Ohlo Street, Chicago, Wingle
Area Identification: F-4-4P
Date of Verification Survey. 7/2662
Time of Verification Survey: 2:30 ampting
The above-described excevation was sampled for pesticides at the time and date indicated above. The analytical results indicated that all pesticide-impacted soils have been removed as required by the Site Removal Action Criteria.
Documents pertaining to the pre-verification immunoassay and laboratory results for pesticides are attached for review and approval by the USEPA.
Signed:
Signed:
Print Name: Steve C. Komder
Print Title: Senior Project Geochemist
STS Consultants, Ltd.
The attached Verification Survey documents were reviewed by USEPA, Region 5 or 120 (
Authorization is hereby granted to commence backfill and restoration work at this excavation.
Signed. Vernetz Sim
Desse: 8/24/12
Print Name: Verneta Simon
Print Title On-Scene Conedinater
For USEPA Region 5

AUG-21-02 09:55 FROM: TECH TEST AUG-21-2002 10:37 STS

STS ACQUISITIONS CO. dba STS CONS., LTD.

Client Sample ID: F4-VP

GC Semivolatiles

Lot-Sample #: F2G310222-001	Work Order #: E5M441AA	Matrix SOLID

 Date Sampled...:
 07/26/02 14:30
 Date Received...:
 07/31/02

 Prep Date.....:
 08/01/02
 Analysis Date...:
 08/08/02

 Prep Batch #...:
 2213116
 Analysis Time...:
 01:05

Dilution Factor: 20

* Moisture....: 10 Method.....: SW846 8081A

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Heptachlor	ND	38	ug/kg
Heptachlor epoxide	ND	38	ug/kg
Aldrin	ND	38	ug/kg
Chlordane (technical)	ND	380	ug/kg
alpha-BHC	ND	38	ug/kg
gamma-BHC (Lindane)	ND	38	ug/kg
4,4'-DDT	ND	38	ug/kg
Dieldrin	ND	38	ug/kg
	PERCENT	RECOVERY	
SURROGATE	RECOVERY	LIMITS	_
Tetrachloro-m-xylene	0.0 DIL	(57 - 116)
Decachlorobiphenyl	0.0 DIL	(45 - 147))

NOTE (S):

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

Results and reporting limits have been adjusted for dry weight.

LOT# F2G310222

~

Projec	meNumber: 341 East Ohio Street, Chicago, Illinois
Area k	Mication: F-6-VP
Date o	erification Survey: 7/24/62
	eritication Survey: 2735 artiform
analyti	e-described excavation was sampled for posticides at the time and date indicated above. The results indicated that all posticide impacted soils have been removed as required by the Sit Action Criteria.
	s pertaining to the pre-verification immunoassay and laboratory results for pesticides are consistent and approval by the USEPA.
	pret the Charles
	8/14/52
	int Name: Steve C, Komder
	int Title: Senior Project Geochemist
	FS Consultants, Ltd.
as dia	thad Varification Survey documents were reviewed by USEPA. Region 5 of 10 102
Author	ion is hereby granted to commence backfill and restoration work at this excavation.
	gnet Varieto Simon
	10: 8/20/12
	int Name: Vecneto Simin
	int Title On-Scene Cocadinator
	or USEPA Region 5

STS ACQUISITIONS CO. dba STS CONS., LTD.

Client Sample ID: F6-VP

GC Semivolatiles

Lot-Sample #: F2G310222-002	Work Order #: E5M5M1AA	Matrix SOLID
-----------------------------	------------------------	--------------

 Date Sampled...:
 07/26/02 14:30
 Date Received...:
 07/31/02

 Prep Date....:
 08/01/02
 Analysis Date...:
 08/08/02

 Prep Batch #...:
 2213116
 Analysis Time...:
 01:24

Dilution Factor: 20

* Moisture....: 10 Method....: SW846 8081A

		REPORTIN	r G
PARAMETER	RESULT	LIMIT	UNITS
Heptachlor	ND	38	ug/kg
Heptachlor epoxide	ND	38	ug/kg
Aldrin	ND	38	ug/kg
Chlordane (technical)	ND	380	ug/kg
alpha-BHC	ND	38	ug/kg
gamma-BHC (Lindane)	ND	38	ug/kg
4,4'-DDT	ND	38	ug/kg
Dieldrin	ND	38	ug/kg
	PERCENT	RECOVERY	•
SURROGATE	RECOVERY	LIMITS	
Tetrachloro-m-xylene	0.0 DIL	(57 - 11	6)
Decachlorobiphenyl	0.0 DIL	(45 - 14	7)

NOTE(S):

DIL. The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

Results and reporting limits have been adjusted for dry weight.

LOT# F2G310222

Project Name/Number: 341 East Ohio Street, Chicago, Minois
Area Identification: F-ID-YP
Date of Verification Survey: 7/26/02
Time of Verification Survey: 2:570 ambin
The above-described excavation was sampled for pesticides at the time and date indicated above. The analytical results indicated that all pesticide-impacted soils have been removed as required by the Site Removal Action Oriteria.
Documents pertaining to the pre-verification immunoassay and laboratory results for pasticides are attached for review and approval by the USEPA.
Signet:
Dens: 3/19/62
Print Name: Stane C. Kornder Print Title: Senior Project Geochemist
STS Consultante, Ltd.
The attached Verification Survey documents were reviewed by USEPA, Region 5 or 1201.6.7. The results of this survey indicate that the posticide verification criteria as discusted in the Amended Removal Action Work Plan (STS, March 2002) and cleanup levels contained in 36 IAC 742 Appendix B, Table A for ingestion and inhalation, have been met.
Authorization is hereb) granted to commence backfill and restoration work at this excavation:
Signed: Hunish-Bina
Date: 8/20/C7
Print Name: VERICHA Sunca
Print Tiber On-Scene Coordination
For USEPA Region 5

STS ACQUISITIONS CO. dba STS CONS., LTD.

Client Sample ID: F10-VP

GC Semivolatiles

Lot-Sample #:	F2G310222-003	Work Order #	: E5M6F1AA	Matrix: SOLID

 Date Sampled...:
 07/26/02 14:30 Date Received...:
 07/31/02

 Prep Date.....:
 08/01/02 Analysis Date...:
 08/08/02

 Prep Batch #...:
 2213116 Analysis Time...:
 01:43

Dilution Factor: 20

* Moisture....: 6.8 Method.....: SW846 8081A

		REPORTIN	IG
PARAMETER	RESULT	LIMIT	UNITS
Heptachlor	ND	36	ug/kg
Heptachlor epoxide	ND	36	ug/kg
Aldrin	ND	36	ug/kg
Chlordane (technical)	ND	360	ug/kg
alpha-BHC	ND	36	ug/kg
gamma-BHC (Lindane)	ND	36	ug/kg
4,4'-DDT	ND	36	ug/kg
Dieldrin	ND	36	ug/kg
	PERCENT	RECOVERY	•
SURROGATE	RECOVERY	LIMITS	
Tetrachloro-m-xylene	0.0 DIL	(57 - 11	6)
Decachlorobiphenyl	0.0 DIL	(45 - 14	.7)

NOTE(S):

DIL. The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

Results and reporting limits have been adjusted for dry weight.

LOT# F2G310222

Chlordane Immunoassay Field Results Summary 341 East Ohio Street

Date:08/19/2002

Sample Location ¹	Sample Date	Time	Sample Type ²	Chlordane Immunoassay Field Kit ³ (mg/kg)
F-8	7/31/02	8 30	base	0.005
H-6	7/31/02	8.45	base	1.48
H-10	7/31/02	9 15	base	0.157
H-12	7/31/02	9 45	base	0.804

Notes:

- t- Sample location is the center point of the 10 X 10 meter grid for base of excavation samples. The location designation for vertical samples indicates the actual sample location.
- 2 Base Composite sample from the base of the excavation (five grab samples from 100 m2 area). Sidewall Vertical composite of five grab samples from excavation side wall.
- 3 The chlordane immunoassay kit does not differentiate between chlordane and other cyclodienes such as heptachlor refer to method documentation for information on the relative sensitivities.
- HI-6 Exceeded cleanup level in laboratory analysis. Resubmitted October 16, 2002 after further excavation

Project Name/Number: 341 East Ohio Street, Chicago, Illinois
Area Identification: #= 8
Date of Verification Survey. 7/31/02
Time of Verification Survey: 8:30 and/pm
The above-described excavation was sampled for pesticides at the time and date indicated above. The analytical results indicated that all pesticide-impacted soils have been removed as required by the Site Removal Action Criteria.
Documents pertaining to the pre-verification immunoassay and laboratory results for pesticides are attached for review and approval by the USEPA.
Signed:
Signed:
Print Name: Steve C. Kornder
Print Title: Senior Project Geochemist .
STS Consultanta, Ltd.
The cattached Verification Survey documents were reviewed by USEPA, Region 5 on Significant Solution The results of this survey indicate that the pesticide verification criteria as discussed in the Amended Removal Action Work Plan (STS, March 2002) and cleanup levels contained in 35 IAC 742 Appendix B, Table A for ingestion and inhalation, have been met.
Authorization is hereby granted to commence backfill and restoration work at this excavation.
signed: Nemetr Sima
Date: 8/20/02
Print Name: VERNETA SIMON
Print Title: On-Scene Covadinatue
For USEPA Region 5

STS ACQUISITIONS CO. dba STS COMS., LTD.

Client Sample ID: P-8

GC Semivolatiles

Lot-Sample #: P2H010233-001	Work Order #:	R5OGC1AA	Matrix: SOLID
Date Sampled: 07/31/02 08:30			
Prep Date: 08/02/02	Analysis Date:		
Prep Batch #: 2214119	a •	• • •	
Dilution Factor: 20	•		
* Moisture: 5.2	Method:	SW846 8081	A
		REPORTING	
PARAMETER	RESULT	LIMIT	UNITS
Heptachlor	ND	36	ug/kg
Heptachlor epoxide	ND	36	ug/kg
Aldrin	MD	36	ug/kg
Chlordane (technical)	MD	360	ug/kg
alpha-BHC	ND	36	ug/kg
gamma-BHC (Lindane)	ND	36	ug/kg
4,4'-DOT	ND	36	ug/kg
Dieldrin	NID	36	ug/kg
	PERCENT	RECOVERY	
SURROGATE	RECOVERY	LIMITS	
Tetrachloro-m-xylene	0.0 DIL	(57 - 116)	
Decachlorobiphenyl	0.0 DIL	(45 - 147)	

MOTE (S):

DIL. The concentration is estimated or not reported due to diluton or the presence of interfering analyses.

Results and reporting limits have been adjusted for dry weight.

Project Name/Number: 341 East Ohio Street, Chicago, Illinois
Area Identification: H-10
Date of Verification Survey: 7/31/02
Time of Verification Survey: 9:15
The above-described excavation was sampled for pesticides at the time and date indicated above. The analytical results indicated that all pesticide-impacted soils have been removed as required by the Sit Removal Action Criteria.
Documents pertaining to the pre-verification immunoassay and laboratory results for pesticides ar attached for review and approval by the USEPA.
Signed:
Signed:
Print Name: Steve C. Komder
Print Title: Senior Project Geochemist .
ST'S Consultants, Ltd.
The attached Verification Survey documents were reviewed by USEPA, Region 5 of Survey indicate that the pesticide verification criterias discussed in the Amended Removal Action Work Plan (STS, March 2002) and cleanup level contained in 35 IAC 742 Appendix B, Table A for ingestion and inhalation, have been met.
Authorization is hereby granted to commence backfill and restoration work at this excavation.
Signed: Verreta Sinn
Date: 8/20/02
Print Name: Venneta Simon
Print Title: Gr-Scene Coordinates
For USEPA Region 5

STS ACQUISITIONS CO. dba STS COMS., LTD.

Client Sample ID: H-10

GC Semivolatiles

Lot-Sample #: F2H010233-003	Work Order #:	E5OGH1AA	Matrix: SOLID
Date Sampled: 07/31/02 09:1			
Prep Date: 08/02/02	Analysis Date:		
Prep Batch #: 2214119	-		
Dilution Factor: 20	•	-	
* Moisture: 19	Method:	SW846 8081	A
		REPORTING	
PARAMETER	RESULT	LIMIT	UNITS
Heptachlor	ND	42	ug/kg
Heptachlor epoxide	MD	42	ug/kg
Aldrin	ND	42	ug/kg
Chlordane (technical)	ND	420	ug/kg
alpha-BHC	NID	42	ug/kg
gamma-BHC (Lindane)	MD	42	ug/kg
4,4'-DDT	ND	42	ug/kg
Dieldrin	ND	42	ug/kg
	PERCENT	RECOVERY	
SURROGATE	RECOVERY	LIMITS	
Tetrachloro-m-xylene	0.0 DIL	(57 - 116)	•
Decachlorobiphenyl	0.0 DIL	(45 - 147)	

HOTE(S):

DEL. The concentration is estimated or not reported due to dilution or the presence of unterfering analyses.

Results and reporting limits have been adjusted for dry weight.

Project Name/Number: 341 East Onio Street, Chicago, Illinois
Area Identification: H-/2
Date of Verification Survey:
Time of Verification Survey: 9.45 are/pm
The above-described excavation was sampled for pesticides at the time and date indicated above. The analytical results indicated that all pesticide-impacted soils have been removed as required by the Sit Removal Action Criteria.
Documents pertaining to the pre-verification immunoassay and laboratory results for pesticides ar attached for review and approval by the USEPA.
Signed:
Date: 8/19/02
Print Name: Steve C. Kornder
Print Title: Senior Project Geothemist
STS Consultants, Ltd.
The attached Verification Survey documents were reviewed by USEPA, Region 5 on the The results of this survey indicate that the pesticide verification oriterial as discussed in the Amended Removal Action Work Plan (STS, March 2002) and cleanup level contained in 35 IAC 742 Appendix B, Table A for ingestion and inhalation, have been met.
Authorization is hereby granted to commence backfill and restoration work at this excavation.
Signed: Ulenety Sims.
Date: 8/20/02
Print Name: Veench Sinch
Print Title: On-Scene Covad in aler
For USEPA Region 5

STS ACQUISITIONS CO. dba STS COMS., LTD.

Client Sample ID: H-12

GC Semivolatiles

Lot-Sample #	.: P2H010233-004	Work Order #.	: E5QGJlAA	Matrix SOLID
Data Campled	- 07/21/02 00.45	Date Beerings	. 00/01/02	

 Date Sampled...:
 07/31/02
 09:45
 Date Received...:
 08/01/02

 Prep Date....:
 08/02/02
 Analysis Date...:
 08/08/02

 Prep Batch #...:
 2214119
 Analysis Time...:
 03:25

Dilution Pactor: 20

* Moisture....: 12 Method.....: SW846 8081A

		REPORTIN	IG
PARAMETER	RESULT	LIMIT	UNITS
Heptachlor	ND	39	ug/kg
Heptachlor epoxide	NID	39	ug/kg
Aldrin	ND	39	ug/kg
Chlordane (technical)	ND	390	ug/kg
alpha-BHC	ND	39	ug/kg
gamma-BHC (Lindane)	ND	39	ug/kg
4,4'-DDT	ND	39	ug/kg
Dieldrin	ND	39	ug/kg
	PERCENT	RECOVERY	•
SURROGATE	RECOVERY	LIMITS	
Tetrachloro-m-xylene	0.0 DIL	(57 - 11	(6)
Decachlorobiphenyl	0.0 DIL	(45 - 14	7)

HOTE(S):

Results and reporting limits have been adjusted for dry weight.

LOT# F2H010233 11

DG. The concentration is emmand or not reported due to dilutes or the presence of interfering analyses.

Chlordane Immunoassay Field Results Summary 341 East Ohio Street

Date:08/19/2002

Sample Location ¹	Sample Date	Time	Sample Type ²	Chlordane Immunoassay
H-4	08/01/2002	13:30	base	0.004
H-8	08/01/2002	13:40	base	0.009
				· -

Notes:

- 1- Sample location is the center point of the 10 X 10 meter grid for base of excavation samples. The location designation for vertical samples indicates the actual sample location.
- 2 Base Composite sample from the base of the excavation (five grab samples from 100 m2 area).
 Sidewall Vertical composite of five grab samples from excavation side wall.
- 3 The chlordane immunoassay kit does not differentiate between chlordane and other cyclodienes such as heptachlor, refer to method documentation for information on the relative sensitivities.

Project Name/Number: 341 East Ohio Street, Chicago, Illinois
Area Identification:
Date of Verification Survey: 8/01/62
Time of Verification Survey:am/@
The above-described excavation was sampled for pesticides at the time and date indicated above. The analytical results indicated that all pesticide-impacted soils have been removed as required by the Site Removal Action Criteria.
Documents pertaining to the pre-verification immunoassay and laboratory results for pesticides are attached for review and approval by the USEPA.
Signed The Clark
Signed The Chile
Print Name: Steve C. Kornder
Print Title: Senior Project Geochemist
STS Consultants, Ltd.
The straction Verification Survey documents were reviewed by USEPA, Region 5 on 5/20 (12 The results of this survey indicate that the pessicide verification criteria as distanced in the Amended Removal Action Work Plan (STS, March 2002) and cleanup levels contained in 35 IAC 742 Appendix B, Table A for Ingestion and Inhalation, have been met.
Authorization is hereby/granted to commence backfill and restoration work at this excavation.
Signed White 5. Sim
Deter Bloglez
Print Name: VERNETA J SIMON
Print Title On Scene Conedinator
For USEPA Region 5

STS ACQUISITIONS CO. dba STS CONS., LTD.

Client Sample ID: H-4

GC Semivolatiles

Lot-Sample #: F2H020131-001 Date Sampled: 08/01/02 13:30 Prep Date: 08/05/02 Prep Batch #: 2217113 Dilution Factor: 20		08/02/02 08/10/02	Matrix: SOLID
* Moisture: 3.6	Method:	SW846 8081	A
		REPORTING	
PARAMETER	RESULT	LIMIT	UNITS
Heptachlor	ND	35	ug/kg
Heptachlor epoxide	ND	35	ug/kg
Aldrin	ND	35	ug/kg
Chlordane (technical)	ND	350	ug/kg
alpha-BHC	ND	35	ug/kg
gamma-BHC (Lindane)	ND	35	ug/kg
4,4'-DDT	ND	35	ug/kg
Dieldrin	ND	35	ug/kg

RECOVERY

(57 - 116)

(45 - 147)

LIMITS

PERCENT

0.0 DIL

0.0 DIL

RECOVERY

NOTE(S):

SURROGATE

Tetrachloro-m-xylene

Decachlorobiphenyl

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

Results and reporting limits have been adjusted for dry weight.

6

Project NamerNumber. 341 East Ono Street, Chicago, Minois
Area Identification: H-8
Date of Verification Survey: 8/1/62
Time of Verification Survey: 1:40 am/6m
The above-described excavation was sampled for pasticides at the time and date indicated above. The analytical results indicated that all posticide-impacted soils have been removed as required by the Site Removal Action Criteria.
Documents pertaining to the pre-verification immunoassay and laboratory results for pesticides are attached for review and approval by the USEPA.
Signed: State Stat
Dete: 8/19/02
Print Name: Steve C. Komder
Print Title: Senior Project Geochemies
STS Consultants, Ltd.
The attached Verification Survey documents were reviewed by USEPA, Region 5 or The results of this survey indicate that the posticide verification criteria as discussed in the Amended Removal Action Work Plan (STS, March 2002) and cleanup levels contained in 35 IAC 742 Appendix B, Table A for ingestion and inhalation, have been met.
Authorization is hereby granted to commence backfill and restoration work at this excavation.
Signed: Veiner Simo
Date: B/20/02
Print Name: Veeneta Simon o Print Title: On-Scene Cookdinate
Print Title: On-Scene Cookdinate
For USEPA Region 5

STS ACQUISITIONS CO. dba STS CONS., LTD.

Client Sample ID: H-8

GC Semivolatiles

Lot-Sample #:	F2H020131-002	Work Order #:	E5R4J1AA	Matrix SOLID
Daha Camalad	00/03/00 30 40	Daka Dagadasad	00/00/00	

 Date Sampled...:
 08/01/02
 13:40
 Date Received...:
 08/02/02

 Prep Date....:
 08/05/02
 Analysis Date...:
 08/10/02

 Prep Batch #...:
 2217113
 Analysis Time...:
 02:59

Dilution Factor: 20

* Moisture....: 3.5 Method....: SW846 8081A

		REPORTIN	1G
PARAMETER	RESULT	LIMIT	UNITS
Heptachlor	ND	35	ug/kg
Heptachlor epoxide	ND	35	ug/kg
Aldrin	ND	35	ug/kg
Chlordane (technical)	ND	350	ug/kg
alpha-BHC	ND	35	ug/kg
gamma-BHC (Lindane)	ND	35	ug/kg
4,4'-DDT	ND	35	ug/kg
Dieldrin	ND	35	ug/kg
	PERCENT	RECOVERY	?
SURROGATE	RECOVERY	LIMITS	
Tetrachloro-m-xylene	0.0 DIL	(57 - 11	.6)
Decachlorobiphenyl	O.O DIL	(45 - 14	17)

NOTE (S):

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

Results and reporting limits have been adjusted for dry weight.

Chlordane Immunoassay Field Results Summary 341 East Ohio Street

Date:08 19/2002

Sample Location ¹	Sample Date	Time	Sample Type ²	Chlordane Immunoassay
l-2	08/02/2002	14:30	sidewall	0.009
I-4	08/02/2002	14:35	sidewall	0.246
I-6	08/02/2002	14:40	sidewall	0.246

Notes:

- 1- Sample location is the center point of the 10 X 10 meter gnd for base of excavation samples. The location designation for vertical samples indicates the actual sample location.
- 2 Base Composite sample from the base of the excavation (five grab samples from 100 m2 area).
 Sidewall Vertical composite of five grab samples from excavation side wall.
- 3 The chlordane immunoassay kit does not differentiate between chlordane and other cyclodienes such as heptachlor, refer to method documentation for information on the relative sensitivities.

Project Name/Number: 341 East Ohio Street, Chicago, Illinois
Area Identification:
Date of Verification Survey: 8/2/02
Time of Verification Survey: 2:38 am/p@
The above-described excavation was sampled for pesticides at the time and date indicated above. The analytical results indicated that all pesticide-impacted soils have been removed as required by the Site Removal Action Criteria.
Documents pertaining to the pre-verification immunoassay and laboratory results for pesticides an attached for review and approval by the USEPA.
Signed:
Date: 4/19/6 >
Print Name: Steve C. Kornder
Print Title: Senior Project Geochemist
STS Consultants, Ltd.
The attached Verification Survey documents were reviewed by USEPA, Region 5 of 1201/7. The results of this survey indicate that the pesticide verification criterias discussed in the Amended Removal Action Work Plan (STS, March 2002) and cleanup level contained in 35 IAC 742 Appendix B, Table A for Ingestion and Inhalation, have been met.
Authorization is hereby/granted to commence backfill and restoration work at this excavation.
signed: Veinetin Sinn
Date: 8/20/02
Print Name: VERNETA Simon
Print Title: On-Scene Covadinator
For USEPA Region 5

STS ACQUISITIONS CO. dba STS COMS., LTD.

Client Sample ID: I-2

GC Semivolatiles

Lot-Sample #: F2H050168-001	Work Order #	RSXN31AA	Matrix: SOLID
Date Sampled: 08/02/02 14:30			
Prep Date: 08/08/02	Analysis Date:		
Prep Batch #: 2220226	Analysis Time:	• •	
Dilution Factor: 20			
Noisture: 17	Method:	SW846 8081	A
		REPORTING	
PARAMETER	RESULT	LIMIT	UNITS
Heptachlor	ND	41	ug/kg
Heptachlor epoxide	ND	41	ug/kg
Aldrin	ND	41	ug/kg
Chlordane (technical)	ND	410	ug/kg
alpha-BHC	ND	41	ug/kg
gamma-BHC (Lindane)	ND	41	ug/kg
4,4'-DDT	ND	41	ug/kg
Dieldrin	ND	41	ug/kg
	PERCENT	RECOVERY	
SURROGATE	RECOVERY	LIMITS	
Tetrachloro-m-xylene	0.0 DIL	(57 - 116)	
Decachlorobiphenyl	0.0 DIL	(45 - 147)	

BOTE (S) :

LOT# F2H050168

DfL The concentration is entirested or not reported due to dilution or the presence of interfering analysis.

Results and reporting limits have been adjusted for dry weight.

Project Name/Number: 341 East Ohio Street, Chicago, Illinois
Area Identification: I - 4 (Shuell composite) =
Date of Verification Survey: 8/2/0 >
Time of Verification Survey: 2:35 among
The above-described excavation was sampled for pesticides at the time and date indicated above. The analytical results indicated that all pesticide-impacted soils have been removed as required by the Site Removal Action Criteria.
Documents pertaining to the pre-verification immunoassay and laboratory results for pesticides are attached for review and approval by the USEPA.
Signed: The Charles
Date:
Print Name: Steve C. Kornder
Print Title: Senior Project Geochemist
STS Consultants, Ltd.
The attached Verification Survey documents were reviewed by USEPA, Region 5 on \$\frac{28/02}{28/02}\$. The results of this survey indicate that the pesticide verification criteria as discussed in the Amended Removal Action Work Plan (STS, March 2002) and cleanup levels contained in 35 IAC 742 Appendix B, Table A for ingestion and inhalation, have been met.
Authorization is hereby granted to commence backfill and restoration work at this excavation.
signed: Venuta Simon
Date: 8/20/6-2
Print Name: Veencha Simon
Print Title: On-Scrne Coordinatie
For USEPA Region 5

PAGE 10/10

STS ACQUISITIONS CO. dba STS COMS., LTD.

Client Sample ID: I-4

GC Semivolatiles

Lot-Sample #: F2H050168-002 Date Sampled: 08/02/02 14:35 Prep Date: 08/08/02 Prep Batch #: 2220226 Dilution Factor: 20 * Moisture: 15	Date Received: Analysis Date:	08/03/02 08/10/02 03:55	Matrix: SOLID
* RDISCUTE: 15	necuou	24040 0001	A
		REPORTING	
PARAMETER	RESULT	LIMIT	UNITS
Heptachlor	ND	40	ug/kg
Heptachlor epoxide	ND	40	ug/kg
Aldrin	ND	40	ug/kg
Chlordane (technical)	ND	400	ug/kg
alpha-BHC	ND	40	ug/kg
gamma-BHC (Lindane)	ND	40	ug/kg
4,4'-DDT	ND	40	ug/kg
Dieldrin	ND	40	ug/kg
	PERCENT	RECOVERY	
SURROGATE	RECOVERY	LIMITS	
Tetrachloro-m-xylene	0.0 DIL	(57 - 116)	
Decachlorobiphenyl	0.0 DIL	(45 - 147)	

HOTE (S):

Results and reporting limits have been adjusted for dry weight.

DGL The concentration is estimated or not reported due to delution or the presence of interfering analytes.

Project Name/Number: 341 East Ohio Street, Chicago, Illinois
Area Identification: I-6 (side and composité)
Date of Verification Survey: 8/2/02
Time of Verification Survey: Z:40 am/on
The above-described excavation was sampled for pesticides at the time and date indicated above. The analytical results indicated that all pesticide-impacted soils have been removed as required by the Site Removal Action Criteria.
Documents pertaining to the pre-verification immunoassay and laboratory results for pesticides are attached for review and approval by the USEPA.
Signed:
Date:
Print Name: Steve C. Kornder .
Print Title: Serilor Project Geochemist .
STS Consultants, Ltd.
The attached Verification Survey documents were reviewed by USEPA, Region 5 on 120 The The results of this survey indicate that the pesticide verification criteria as discussed in the Amended Removal Action Work Plan (STS, March 2002) and cleanup levels contained in 35 IAC 742 Appendix B, Table A for Ingestion and inhalation, have been met.
Authorization is hereby granted to commence backfill and restoration work at this excavation.
signed: Vanets Simm
Date: 8/29/02
Print Name: VERNESS Simon
Print Title: On-Scene Coordinator
For USEPA Region 5

STS ACQUISITIONS CO. dba STS CONS., LTD.

Client Sample ID: I-6

GC Semivolatiles

Lot-Sample #: F2H050168-003			Matrix: SOLID
Date Sampled: 08/02/02 14:40		• •	
-	Analysis Date:		
Prep Batch #: 2220226	Analysis Time:	04:14	
Dilution Factor: 20			
* Moisture: 18	Method:	SW846 8081	A
		REPORTING	
PARAMETER	RESULT	LIMIT	UNITS
Beptachlor	49	42	ug/kg
Heptachlor epoxide	ND	42	ug/kg
Aldrin	ND	42	ug/kg
Chlordane (technical)	ND	420	ug/kg
alpha-BHC	ND	42	ug/kg
gamma-BHC (Lindane)	ND	42	ug/kg
4,4'-DDT	ND	42	ug/kg
Dieldrin	ND	42	ug/kg
	PERCENT	RECOVERY	
SURROGATE	RECOVERY	LINITS	
Tetrachloro-m-xylene	0.0 DIL	(57 - 116)	
Decachlorobiphenyl	0.0 DIL	(45 - 147)	

HOTE (S):

DEL. The concentration is estimated or not reported due to dilution or the presence of interfering analyses.

Results and reporting famils have been adjusted for dry weight.

Chlordane Immunoassay Field Results Summary 341 East Ohio Street

Date:09/3/2002

Sample Location ¹	Sample Date	Time	Sample Type ²	Chlordane Immunoassay Field Kit ³ (mg/kg)
H-14	08/14/2002	14:30	base	0.000
F-16	08/20/2002	13:00	base	0.007
F-18	08/20/2002	13:10	base	0.084
F-21	08/20/2002	13:40	sidewall	0.874
F-14	08/20/2002	13:20	sidewall	0.719
I-16	08/20/2002	10:45	sidewall	0.486
I-18	08/20/2002	11:00	sidewall	0.008
	1			

Notes:

- 1- Sample location is the center point of the 10 X 10 meter grid for base of excavation samples.

 The location designation for vertical samples indicates the actual sample location.
- 2 Base Composite sample from the base of the excavation (five grab samples from 100 m2 area).Sidewall Vertical composite of five grab samples from excavation side wall.
- 3 The chlordane immunoassay kit does not differentiate between chlordane and other cyclodienes such as heptachlor, refer to method documentation for information on the relative sensitivities.

Project Name/Number: 341 East Ohio Street, Chicago, Illinois
Area Identification: H-14
Date of Verification Survey: 8/4/02
Time of Verification Survey: 2:30 and
The above-described excavation was sampled for pesticides at the time and date indicated above. The analytical results indicated that all pesticide-impacted soils have been removed as required by the Six Removal Action Criteria.
Documents pertaining to the pre-verification immunoessay and laboratory results for pesticides are attached for review and approved by the USEPA.
Signed:
Dode: 9/3/0-2
Print Name: Steve C. Komder
Print Title: Senior Project Geochemist .
STS Consultants, Ltd.
The attached Verification Survey documents were reviewed by USEPA, Region 5 or The results of the survey indicate that the pesticide verification criteric as discussed in the Amended Removal Action Work Plan (STS, March 2002) and cleanup levels contained in 35 IAC 742 Appendix B, Table A for ingestion and inhelation, have been met.
Authorization is hereby granted to commence backfill and restoration work at this excavation.
Signed Ylingha Simon
Signet Vlington Simon Dete: 9/6/02
Print Name: VERNIGHA SIMON
Print Title: On-Scene Coved, nature
For USEPA Region 5

Client Sample ID: H-14

GC Semivolatiles

Lot-Sample #...: F2H200218-002 Work Order #...: E6VCK1AA Matrix.....: SOLID

 Date Sampled...:
 08/19/02 14:30
 Date Received..:
 08/20/02

 Prep Date....:
 08/22/02
 Analysis Date..:
 08/26/02

 Prep Batch #...:
 2234216
 Analysis Time..:
 16:46

Dilution Factor: 1

* Moisture....: 5.4 Method.....: SW846 8081A

		REPORTING	G
PARAMETER	RESULT	LIMIT	UNITS
Aldrin	ND	1.8	ug/kg
alpha-BHC	ND	1.8	ug/kg
gamma-BHC (Lindane)	ND	1.8	ug/kg
Chlordane (technical)	ND	18	ug/kg
4,4'-DDT	ND	1.8	ug/kg
Dieldrin	ND	1.8	ug/kg
Heptachlor	ND	1.8	ug/kg
Heptachlor epoxide	0.70 J,COL	7.1	ug/kg
	PERCENT	RECOVERY	
SURROGATE	RECOVERY	LIMITS	
Decachlorobiphenyl	100	(50 - 151	1)
Tetrachloro-m-xylene	88	(64 - 131	1)

NOTE (S):

Results and reporting limits have been adjusted for dry weight.

COL More than 40% difference between primary and confirmation column results. The lower of the two results is reported.

J Estimated result. Result is less than RL.

Project Name/Number: 341 East Ohio Street, Chicago, Illinois
Area Identification: F/6 Date of Vertication Survey: 8/20/07
Date of Verification Survey: 8/20/07
Time of Verification Survey: 1:00 armin
The above-described excavation was sampled for pesticides at the time and date indicated above. The analytical results indicated that all pesticide-impacted soils have been removed as required by the Site Removal Action Criteria.
Documents pertaining to the pre-verification immunoassay and laboratory results for pesticides are attached for review and approval by the USEPA.
Signet
Signed:
Print Name: Steve C. Komder
Print Title: Senior Project Geochemist
STS Consultants, Ltd.
The attached Verification Survey documents were reviewed by USEPA, Region 5 or The results of this survey indicate that the posticide verification criteria as discussed in the Amended Removal Action Work Plan (STS, March 2002) and cleanup levels contained in 35 IAC 742 Appendix B, Table A for ingestion and inhalation, have been met.
Authorization is hereby granted to commence backful and restoration work at this excavation.
signed Vernita Simm
Date: 9/6/02
Print Name: VERnista Simon
Print Title: On-Scene Covedinator
For USEPA Region 5

Client Sample ID: F-16

GC Semivolatiles

Lot-Sample #...: F2H210313-006 Work Order #...: E60KJ1AA Matrix.....: SOLID

 Date Sampled...:
 08/20/02 13:00 Date Received...:
 08/21/02

 Prep Date.....:
 08/22/02 Analysis Time...:
 21:09

Dilution Factor: 1

† Moisture....: 15 Method.....: SW846 8081A

		REPORTING	
PARAMETER	RESULT	LIMIT	<u>UNITS</u>
Aldrin	ND	2.0	ug/ kg
alpha-BHC	0.59 J,COL	2.0	ug/kg
gamma-BHC (Lindane)	ND	2.0	ug/kg
Chlordane (technical)	ND	20	ug/kg
4,4'-DDT	ND	2.0	ug/kg
Dieldrin	ND	2.0	ug/kg
Heptachlor	ND	2.0	ug/kg
Heptachlor epoxide	ND	7.8	ug/kg
	PERCENT	RECOVERY	
SURROGATE	RECOVERY	LIMITS	_
Decachlorobiphenyl	70	(50 - 151)	<u></u>
Tetrachloro-m-xylene	88	(64 - 131)	

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

COL More than 40% difference between primary and confirmation column results. The lower of the two results is reported.

J Estimated result. Result is less than RL.

TOJE	d Name/Number: 341 Editi Onto Street, Criticado, Hirtos
	Identification: F-18
	of Verification Survey: 8/20/02
ime	of Vertication Survey: £10 = 100
naly(bove-described excavation was sampled for pesticides at the time and date indicated above. The lical results indicated that all pesticide-impacted soils have been removed as required by the Should Action Criteria.
	ments pertaining to the pre-verification immunoassay and laboratory results for pesticides and laboratory results for pesticides and laboratory and approval by the USEPA.
	Signed: Signed:
	0======================================
	Print Name: Stove C. Kornder .
	Print Title: Senior Project Geochemist .
	STS Consultants, Ltd.
ntai	attached. Verification Survey documents were reviewed by USEPA, Region 5 of The results of this survey indicate that the pesticide verification criteriscussed in the Amended Removel Action Work Plan (STS, March 2002) and cleanup level ined in 35 IAC 742 Appendix B, Table A for ingestion and inhelation, have been met.
~~	The Sun
	Signed: Vleueta Simon Date: 9/6/02
	Date: 9/6/02
	Print Name: Vereneta Simon
	Print Title: On-Scene Cookedinatora
	For USEPA Region 5

Client Sample ID: F-18

GC Semivolatiles

Lot-Sample #:	F2H210313-007	Work Order	#:	E60KK1AA	Matrix:	SOLID
		_	_			

 Date
 Sampled...:
 08/20/02
 13:10
 Date
 Received...:
 08/21/02

 Prep
 Date...:
 08/22/02
 Analysis
 Date...:
 08/26/02

 Prep
 Batch #...:
 2234216
 Analysis
 Time...:
 21:39

Dilution Factor: 1

* Moisture....: 17 Method.....: SW846 8081A

		REPORTIN	G
PARAMETER	RESULT	LIMIT	UNITS
Aldrin	1.0 J	2.1	ug/kg
alpha-BHC	ND	2.1	ug/kg
gamma-BHC (Lindane)	ND	2.1	ug/kg
Chlordane (technical)	ND	21	ug/kg
4,4'-DDT	ND	2.1	ug/kg
Dieldrin	ND	2.1	ug/kg
Heptachlor	ND	2.1	ug/kg
Heptachlor epoxide	ND	8.1	ug/kg
	PERCENT	RECOVERY	
SURROGATE	RECOVERY	LIMITS	
Decachlorobiphenyl	77	(50 - 15	1)
Tetrachloro-m-xylene	97	(64 - 13)	1)

NOTE (S):

Results and reporting limits have been adjusted for dry weight.

J Estimated result. Result is less than RL.

Project reamendamoer: 341 East Otto Solvet, Ottosco, Haros
Area Identification: F-2/ (Sidewall Composite)
Date of Verification Survey: 8/20/02
Time of Verification Survey: 1:40 among
The above-described excavation was sampled for pesticides at the time and date indicated above. The analytical results indicated that all pesticide-impacted soils have been removed as required by the Site Removel Action Criteria.
Documents partaining to the pre-verification immunoassay and laboratory results for pesticides are stached for review and approval by the USEPA.
Signed The Shouth
Date: 9/3/02
Print Name: Steve C. Komder
Print Title: Senior Project Geochemist
STS Consultants, Ltd.
The stacked Vertilication Survey documents were reviewed by USEPA, Region 5 or 976 C7. The results of this survey indicate that the pesticide verification criteric as discussed in the Amended Removal Action Work Plan (STS, March 2002) and cleanup levels contained in 35 IAC 742 Appendix B, Table A for ingestion and inhalation, have been met.
Authorization is hereby granted to commence backfill and restoration work at this excavation?
signed Yerretz Sinon.
Dealer 9/6/67
Print Name: Vocacha Simon
Print Title: On-Scene Cooked inator
For USEPA Region 5

Client Sample ID: F-21

GC Semivolatiles

Lot-Sample #:	F2H210313-004	Work Order #:	E60KG1AA	Matrix: SOLID
Date Sampled:	08/20/02 13:40	Date Received:	08/21/02	
Prep Date:	08/22/02	Analysis Date:	08/26/02	
Prep Batch #:	2234216	Analysis Time:	20:11	
Dilution Factor:	5			
& Moisture:	19	Method:	SW846 8081A	

		REPORTIN	G
PARAMETER	RESULT	LIMIT	UNITS
Aldrin	ND	2.1	ug/kg
alpha-BHC	ND	2.1	ug/kg
gamma-BHC (Lindane)	ND	2.1	ug/kg
Chlordane (technical)	ND	21	ug/kg
4,4'-DDT	ND	2.1	ug/kg
Dieldrin	ND	2.1	ug/kg
Heptachlor	ND	2.1	ug/kg
Heptachlor epoxide	5.2 J,COL	8.3	ug/kg
	PERCENT	RECOVERY	
SURROGATE	RECOVERY	LIMITS	
Decachlorobiphenyl	0.0 DIL,NC	(50 - 15:	1)
Tetrachloro-m-xylene	0.0 DIL,NC	(64 - 13:	1)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

COL More than 40% difference between primary and confirmation column results. The lower of the two results is reported.

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

NC The recovery and/or RPD were not calculated.

I Estimated result. Result is less than RL.

Project Name/Number: 341 East Ohio Street, Chicago, Minois
Area identification: F-14 (side and composite)
Date of Verification Survey: 8/20/02
Time of Verification Survey: 1:20 amiltin
The above-described excavation was sampled for peeticides at the time and date indicated above. The analytical results indicated that all pesticide-impected soils have been removed as required by the St Removal Action Criteria.
Documents pertaining to the pre-verification immunosessy and laboratory results for pesticides are attached for review and approval by the USEPA.
Somet Marin Charles
Desc. 9/3/02
Print Name: Steve C. Komder
Print Title: Senior Project Geochemist
STS Consultants, Ltd.
The attached Verification Survey documents were reviewed by USEPA, Region 5 of a 1/6/62. The results of this survey indicate that the pesticide verification criterias discussed in the Amended Removal Action Work Plan (818, March 2002) and cleanup level contained in 35 IAC 742 Appendix B, Table A for Ingestion and inhalation, have been met.
Authorization is hereby granted to commence backfill and restoration work at this excavation.
Signed Verner Sins
Signed Verneto Sins 9/6/02
Print Name: Vaeneta Simon
Print Title: On . Scene Cookdinater
For USEPA Region 5

Client Sample ID: F-14

GC Semivolatiles

Lot-Sample #:	F2H210313-005	Work Order #:	E60KH1AA	Matrix: SOLID
Date Sampled:	08/20/02 13:20	Date Received:	08/21/02	
Prep Date:	08/22/02	Analysis Date:	08/26/02	
Prep Batch #:	2234216	Analysis Time:	20:40	
Dilution Factor:	5			

Dilution Factor: 5
* Moisture....: 17

Method.....: SW846 8081A

PARAMETER	RESULT	REPORTING LIMIT	units
Aldrin	ND	2.0	ug/kg
alpha-BHC	ND	2.0	ug/kg
gamma-BHC (Lindane)	ND	2.0	ug/kg
Chlordane (technical)	ND	20	ug/k g
4,4'-DDT	ND	2.0	ug/kg
Dieldrin	ND	2.0	ug/kg
Heptachlor	ND	2.0	ug/k g
Heptachlor epoxide	4.6 J	8.1	ug/kg
	PERCENT	RECOVERY	

	PERCENT	RECOVERY	
SURROGATE	RECOVERY	LIMITS	
Decachlorobiphenyl	0.0 DIL,NC	(50 - 151)	
Tetrachloro-m-xylene	0.0 DIL,NC	(64 - 131)	

NOTE (S):

Results and reporting limits have been adjusted for dry weight.

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

NC The recovery and/or RPD were not calculated.

J Estimated result. Result is less than RL.

Project Name/Number: 341 East Ohio Street, Chicago, Illinois
Area Identification: I-16 (side well supposite)
Date of Verification Survey: <u>6/20/02</u>
Time of Verification Survey: 10:45
The above-described excavation was sampled for pesticides at the time and date indicated above. The analytical results indicated that all pesticide-impacted soils have been removed as required by the Sit Removal Action Oriteria.
Documents pertaining to the pre-verification immunoassay and laboratory results for pesticides an attached for review and approval by the USEPA.
Signed That Kand
Signed: ### Signed: 9/3/b7
Print Name: Steve C. Kornder
Print Title: Senior Protect Geochemist
STS Consultants, Ltd.
The attachted Verification Survey documents were reviewed by USEPA, Region 5 of The results of this survey indicate that the posticide verification criterias discussed in the Amended Removal Action Work Plan (STS, March 2002) and cleanup level contained in 35 IAC 742 Appendix B. Table A for ingestion and inhalation, have been met.
Authorization is hereby granted to commence bacidill and restoration work at this excevation.
Sonet Villeta Jour
Date: Much Sour
Print Name: Verneta Simon
Print Title: On Scene Cookdington
For USEPA Region 5

Client Sample ID: I-16

GC Semivolatiles

Lot-Sample #: F2H210313-002	Work Order #: E60KE1AA	Matrix: SOLID
-----------------------------	------------------------	---------------

 Date Sampled...:
 08/20/02 10:45 Date Received...:
 08/21/02

 Prep Date.....:
 08/22/02 Analysis Date...:
 08/26/02

 Prep Batch #...:
 2234216 Analysis Time...:
 19:13

Dilution Factor: 5

* Moisture....: 16 Method.....: SW846 8081A

		REPORTING	
PARAMETER	RESULT	LIMIT	UNITS
Aldrin	ND	2.0	ug/kg
alpha-BHC	ND	2.0	ug/kg
gamma-BHC (Lindane)	ND	2.0	ug/kg
Chlordane (technical)	es col	20	ug/kg
4,4'-DDT	ND	2.0	ug/kg
Dieldrin	5.0	2.0	ug/kg
Heptachlor	3.7	2.0	ug/kg
Heptachlor epoxide	ND	7.9	ug/kg
	PERCENT	RECOVERY	
SURROGATE	RECOVERY	LIMITS	_
Decachlorobiphenyl	0.0 DIL,NC	(50 - 151))
Tetrachloro-m-xvlene	0.0 DIL,NC	(64 - 131))

NOTE (S):

COL More than 40% difference between primary and confirmation column results. The lower of the two results is reported.

DIL. The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

NC The recovery and/or RPD were not calculated.

Results and reporting limits have been adjusted for dry weight.

:-

Project Name/Number: 341 East Ohio Street, Chicago, Illinois
Area Identification: I-18 (Sick Mall composite)
Area Identification: I-18 (Sink Kuld composite) Date of Verification Survey: 8/20/62
Time of Verification Survey:amigft)
The above-described excernation was sampled for posticides at the time and date indicated above. The analytical results indicated that all posticide impacted soils have been removed as required by the Site Removal Action Criteria.
Documents pertaining to the pre-verification immunoassay and leboratory results for pesticides are attached for review and approved by the USEPA.
Signet That founds
Signed: Man Zorodo. Date: 9/3/02
Print Name: Steve C. Komder .
Print Title: Senior Project Geochemist
STS Consultants, Ltd.
The application Survey documents were reviewed by USEPA, Region 5 on The results of this survey indicate that the posticide verification criteria as discussed in the Amended Removal Action Work Plan (STS, March 2002) and cleanup levels contained in 35 IAC 742 Appendix B, Table A for ingestion and Inhalation, have been met.
Authorization is herely granted to opmmence bacidil and restoration work at this excevation.
Signed: Much Sim
9/4/02
Date: 9/4/02 Print Name: Veencha Simon
Print Title: On-Scene Covedinater
For USEPA Region 5

Client Sample ID: I-18

GC Semivolatiles

Lot-Sample #: F2H210313-003	Work Order #: E60KF1AA	Matrix SOLID
-----------------------------	------------------------	--------------

 Date
 Sampled...:
 08/20/02
 11:00
 Date
 Received...:
 08/21/02

 Prep
 Date...:
 08/22/02
 Analysis
 Date...:
 08/26/02

 Prep
 Batch #...:
 2234216
 Analysis
 Time...:
 19:42

Dilution Factor: 5

* Moisture....: 7.7 Method....: SW846 8081A

		REPORTIN	G
PARAMETER	RESULT	LIMIT	UNITS
Aldrin	ND	1.8	ug/kg
alpha-BHC	ND	1.8	ug/kg
gamma-BHC (Lindane)	ND	1.8	ug/kg
Chlordane (technical)	ND	18	ug/kg
4,4'-DDT	ND	1.8	ug/kg
Dieldrin	ND	1.8	ug/kg
Heptachlor	ND	1.8	ug/kg
Heptachlor epoxide	ND	7.3	ug/kg
	PERCENT	RECOVERY	
SURROGATE	RECOVERY	LIMITS	
Decachlorobiphenyl	0.0 DIL,NC	(50 - 15	1)
Tetrachloro-m-xylene	0.0 DIL,NC	(64 - 13:	1)

NOTE (S):

Results and reporting limits have been adjusted for dry weight.

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

NC The recovery and/or RPD were not calculated.

Chlordane Immunoassay Field Results Summary 341 East Ohio Street

Date:09/3/2002

Sample Location ¹	Sample Date	Time	Sample Type ²	Chlordane Immunoassay Field Kit ³ (mg/kg)
H16	08/23/2002	13:50	base	0.001
H18	08/23/2002	13:40	base	0.036
D1/2-16	08/23/2002	13:45	vertical	0.019
D1/2-18	08/23/2002	13:50	vertical	0.05
D½-20	08/23/2002	13:55	vertical	0.734
J½-8	08/23/2002	14:00	vertical	0.009

Notes:

- 1- Sample location is the center point of the 10 X 10 meter grid for base of excavation samples. The location designation for vertical samples indicates the actual sample location.
- 2 Base Composite sample from the base of the excavation (five grab samples from 100 m2 area).

 Sidewall Vertical composite of five grab samples from excavation side wall.
- 3 The chlordane immunoassay lot does not differentiate between chlordane and other cyclodienes such as heptachtor, refer to method documentation for information on the relative sensitivities.

Project Name/Number: 341 East Onio Street, Onicago, Iulinois
Area Identification: H-16
Date of Verification Survey: S/23/02
Time of Verification Survey: 1.50 arp pm
The above-described excavation was sampled for pesticides at the time and date indicated above. The analytical results indicated that all pesticide-impacted soils have been removed as required by the Sit Removal Action Criteria.
Documents pertaining to the pre-verification immunoassay and laboratory results for pesticides ar attached for review and approval by the USEPA.
Signed:
Date: 9/3/02
Print Name: Steve C. Kornder
Print Title: Senior Project Geochemist
STS Consultants, Ltd.
The attached Verification Survey documents were reviewed by USEPA, Region 5 of this survey indicate that the pesticide verification criterias discussed in the Amended Removal Action Work Plan (STS, March 2002) and cleanup level contained in 35 IAC 742 Appendix B, Table A for ingestion and inhalation, have been met.
Authorization is hereby granted to commence backfill and restoration work at this excavation.
Signed: Vluck Sinon
Date: 9/4/02
Print Name: Vereneta Simon
Print Name: Verenetra Simon Print Title: on-Scene Coardinator
For USEPA Region 5

Client Sample ID: H-16

GC Semivolatiles

 Date Sampled...:
 08/23/02 13:50 Date Received...:
 08/27/02

 Prep Date.....:
 08/29/02 Analysis Date...:
 08/30/02

 Prep Batch #...:
 2241300 Analysis Time...:
 13:16

Dilution Factor: 1

* Moisture....: 12 Method.....: SW846 8081A

		REPORTIN	r G
PARAMETER	RESULT	LIMIT	UNITS
Aldrin	NЭ	1.9	ug/kg
alpha-BHC	ND	1.9	ug/kg
gamma-BHC (Lindane)	ND	1.9	ug/kg
Chlordane (technical)	ND	19	ug/kg
4,4'-DDT	ND	1.9	ug/kg
Dieldrin	ND	1.9	ug/kg
Heptachlor	% D	1.9	ug/kg
Reptachlor epoxide	ZD.	7.6	ug/kg
ndrin	ND	1.9	ug/kg
	PERCENT	RECOVERY	•
SURROGATE	RECOVERY	LIMITS	_
ecachlorobiphenyl	64	(50 - 15	1)
etrachloro-m-xylene	76	{64 - 13	1)

MOTB(S):

Results and reporting femits have been adjusted for dry weight.

Project Name/Number: 341 East Ohlo Street, Chicago, Illinois
Area Identification: 11-18
Date of Verification Survey: 8/23/02
Time of Verification Survey: 1-40 and pm
The above-described excavation was sampled for pesticides at the time and date indicated above. The analytical results indicated that all pesticide-impacted soils have been removed as required by the Site Removal Action Criteria.
Documents pertaining to the pre-verification immunoassay and laboratory results for pesticides are attached for review and approval by the USEPA.
Signed:
Signed:
Print Name: _ Steve C. Kornder
Print Title: Senior Project Geochemist .
STS Consultants, Ltd.
The attached Verification Survey documents were reviewed by USEPA, Region 5 on
Authorization is hereby granted to commence backfill and restoration work at this excavation.
Signed: Veener Simon
Date: 9/4/02
Date: 9/4/02 Print Name: Veeneta Simon
Print Title: On-Scene Cooledinator
For USEPA Region 5

Client Sample ID: H-18

GC Semivolatiles

Lot-Sample #: F2H2801	72-002 Work Order	#: E7A8N1AA	Matrix SOLID
-----------------------	-------------------	-------------	--------------

 Date Sampled...:
 08/23/02
 13:40
 Date Received...:
 08/27/02

 Prep Date....:
 08/29/02
 Analysis Date...:
 08/30/02

 Prep Batch #...:
 2241300
 Analysis Time...:
 13:59

Dilution Pactor: 5

		REPORTIN	i G
PARAMETER	RESULT	LIMIT	UNITS
Aldrin	כא	9.7	ug/kg
alpha-BHC	N)	9.7	ug/kg
gamma-BHC (Lindane)	MD	9.7	ug/kg
Chlordane (technical)	ND	97	ug/kg
4,4'-DDT	ND	9.7	ug/kg
Dieldrin	CK	9.7	ug/kg
Heptachlor	12	9.7	ug/kg
Heptachlor epoxide	5.8 J	38	ug/kg

	PERCENT	RECOVERY
SURROGATE	RECOVERY	LIMITS
Decachlorobiphenyl	0.0 DIL,NC	(50 - 151)
Tetrachloro-m-xylene	0.0 DIL,NC	(64 - 131)

MOTE(S):

Results and reporting fames have been adjusted for dry weight.

DEL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

NC. The recovery and/or RPD were not calculated.

J. Exempled result. Result is less than RL.

roject Name/Number: 341 East Ohio Street. Chicago, Illinois
rea Identification: D/2-16 (vertical composite)
ate of Verification Survey: 8/23/02
ime of Verification Survey: 1:45 amon
he above-described excavation was sampled for pesticides at the time and date indicated above. The nalytical results indicated that all pesticide-impacted soils have been removed as required by the Site emoval Action Criteria.
ocuments pertaining to the pre-verification immunoassay and laboratory results for pesticides are tached for review and approval by the USEPA.
Signed: The Some
Date: 9/3/02
Print Name: Steve C. Komder
Print Title: Senior Project Geochemist
STS Consultants, Ltd.
he attached Verification Survey documents were reviewed by USEPA, Region 5 on 1/4/07. The results of this survey indicate that the pesticide verification criteria discussed in the Amended Removal Action Work Plan (STS, March 2002) and cleanup levels ontained in 35 IAC 742 Appendix B, Table A for ingestion and inhalation, have been met.
uthorization is hereby granted to commence backfill and restoration work at this excavation.
Signed: Turets Simm
Date: 9/4/02
Print Name: Verneta Simon
Print Title: On-Scene Cookdinator
For USEPA Region 5

Client Sample ID: D.5-16

GC Semivolatiles

Lot-Sample #: F2H280172-303 Date Sampled: 08/23/02 13:4 Prep Date: 08/29/02 Prep Batch #: 2241300 Dilution Factor: 1	5 Date Received: Analysis Date:	08/27/02 08/30/02	Matrix: SOLID
* Moisture: 22	Method:	SW846 8081	A
		REPORTING	
PARAMETER	RESULT	LIMIT	UNITS
Aldrin	0.82 J	2.2	ug/kg
alpha-BHC	0.76 J	2.2	ug/kg
gamma-BHC (Lindane)	ND	2.2	ug/kg
Chlordane (technical)	ND	22	ug/kg
4,4'-DDT	ND	2.2	ug/kg
Dieldrin	0.81 J	2.2	ug/kg
Heptachlor	1.5 J,COL	2.2	ug/kg
Heptachlor epoxide	CM	8.6	ug/kg

RECOVERY

(50 - 151)

(64 - 131)

LIMITS

MOTE (S):

SURROGATE

Results and reporting finants have been adjusted for dry weight.

Decachlorobiphenyl

Tetrachloro-m-xylene

COL More than 40% difference between primary and confirmation column results. The lower of the two results is reported.

PERCENT

88

69

RECOVERY

J. Estatused result. Result is less than RL.

SEP-04-2002 14:41

Project Name/Number: 341 East Ohio Street, Chicago, Illinois
Area Identification: D12-18 (vertical composite)
Date of Verification Survey: 8/23/02
Time of Verification Survey: 1:50am\pmi
The above-described excavation was sampled for pesticides at the time and date indicated above. The analytical results indicated that all pesticide-impacted soils have been removed as required by the Site Removal Action Criteria.
Documents pertaining to the pre-verification immunoassay and laboratory results for pesticides are attached for review and approval by the USEPA.
Signed:
Date: 9/3/02
Print Name: Steve C. Komder
Print Title: Senior Project Geochemist
STS Consultants, Ltd.
The attached Verification Survey documents were reviewed by USEPA, Region 5 on 1/4//2
contained in 35 IAC 742 Appendix B, Table A for ingestion and inhalation, have been met.
Authorization is hereby granted to commence backfill and restoration work at this excavation.
Signed: 7 level 7 Simon
Date: 9/4/02
Print Name: Vernetz-Simon Print Title: On-Scene Cookdinator
For USEPA Region 5

Client Sample ID: D.5-18

GC Semivolatiles

Lot-Sample #: F2	2H280172-004 Wor	k Order #: E7	7A8TlAA Mat i	rix SOLID
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 Date Sampled...:
 08/23/02
 13:50
 Date Received...:
 08/27/02

 Prep Date....:
 08/29/02
 Analysis Date...:
 08/30/02

 Prep Batch #...:
 2241300
 Analysis Time...:
 14:27

Dilution Pactor: 10

*** Moisture....:** 20 Method....: SW846 8081A

		REPORTIN	iG
PARAMETER	RESULT	LIMIT	UNITS
Aldrin	ND	21	ug/kg
alpha-BHC	ND	21	ug/kg
gamma-BHC (Lindane)	ND	21	ug/kg
Chlordane (technical)	ND	210	ug/kg
4,4'-DDT	ND	21	ug/kg
Dieldrin	ND	21	ug/kg
Heptachlor	31	21	ug/kg
Heptachlor epoxide	ND	84	ug/kg

	PERCENT	RECOVERY	
SURROGATE	RECOVERY	LIMITS	
Decachlorobiphenyl	G.O DIL,NC	(50 - 151)	
Tetrachloro-m-xylene	0.0 DIL,NC	(64 - 131)	

BOTE(S):

Results and reporting litties have been adjusted for dry weight.

DIL. The concentration is estimated or not reported due to dilucion or the presence of interfering analyses.

NC. The recovery and/or RPD were not calculated.

SEP-04-2002 14:41 STS Consultants, Ltd.

Project Name/Number: 341 East Ohio Street, Chicago, Illinois
Area Identification: D/2-20 (vertical composite)
Date of Verification Survey: 8/23/62
Time of Verification Survey:areform
The above-described excavation was sampled for pesticides at the time and date indicated above. The analytical results indicated that all pesticide-impacted soils have been removed as required by the Six Removal Action Criteria.
Documents pertaining to the pre-verification immunoassay and laboratory results for pesticides an attached for review and approval by the USEPA.
Signed: Clarific Communication of the Communication
Date: 9/3/02
Print Name: Steve C. Kornder
Print Title: Senior Project Geochemist
STS Consultants, Ltd.
the second of th
The attached Verification Survey documents were reviewed by USEPA. Region 5 or The results of this survey indicate that the pesticide verification criteria
as discussed in the Amended Removal Action Work Plan (STS, March 2002) and cleanup levels contained in 35 IAC 742 Appendix B, Table A for ingestion and inhalation, have been met.
Authorization is hereby granted to commence backfill and restoration work at this excavation.
Signed: Veneto Simi
Date: 9/4/02
Print Name: Veeneta Simon
Print Title: On- Scene Coordinator
For USEPA Region 5

Client Sample ID: D.5-20

GC Semivolatiles

Lot-Sample #: F2H280172-005	Work Order #:	E7A8X1AA	Matrix: SCLID
Date Sampled: 08/23/02 13:55	Date Received:	08/27/02	
Prep Date: 08/29/02	Analysis Date:	08/30/02	
Prep Batch #: 2241300	Analysis Time:	14:41	
Dilution Factor: 10			
* Moisture: 25	Method:	SW846 8081	A
		REPORTING	
PARAMETER	RESULT	LIMIT	UNITS
Aldrin	15 J	23	ug/kg
alpha-BHC	6.2 J,COL	23	ug/kg
gamma-BHC (Lindane)	ND	23	ug/kg
Chlordane (technical)	ND	230	ug/kg
4,4'-DDT	8.5 J,COL	23	ug/kg
Dieldrin	ND	23	ug/kg
Heptachlor	19 J,COL	23	ug/kg
Beptachlor epoxide	55 J,COL	89	ug/kg
	PERCENT	RECOVERY	
SURROGATE	RECOVERY	LIMITS	
Decachlorobiphenyl	0.0 DIL,NC	(50 - 151)	

(64 - 131)

0.0 DIL,NC

MOTE(S):

Tetrachloro-m-xylene

Results and reporting limits have been adjusted for dry weight.

DIL The concentration is estimated or not reported due to discuss or the presence of interfering analyses.

NC. The recovery and/or RPD were not calculated.

J. Enteranced remails. Result is less than RL.

COL More than 40% difference between premary and confirmation column results. The liower of the two results is reported.

Project Name/Number: 341 East Ohio Street, Chicago, Illinois
Area Identification: 51/2-8
Date of Verification Survey: 2/23/02
Time of Verification Survey: 2:00 and
The above-described excavation was sampled for pesticides at the time and date indicated above. The analytical results indicated that all pesticide-impacted soils have been removed as required by the Sit Removal Action Criteria.
Documents pertaining to the pre-verification immunoassay and laboratory results for pesticides at attached for review and approval by the USEPA.
Signed: Signed:
Date: 9/3/02
Print Name: Steve C. Komder
Print Title: Senior Project Geochemist
STS Consultants, Ltd.
The attached Verification Survey documents were reviewed by USEPA, Region 5 of GIGOT The results of this survey indicate that the pesticide verification criterias discussed in the Amended Removal Action Work Plan (STS, March 2002) and cleanup leve contained in 35 IAC 742 Appendix B, Table A for ingestion and inhalation, have been met.
Authorization is hereby granted to commence backfill and restoration work at this excavation.
Signed: Verrela Sinor
Date: 9/4/02
Print Name: VEENETA SIMON
Print Title: On-Scene Coordinator
For USEPA Region 5

Client Sample ID: J.5-8

GC Semivolatiles

Lot-Sample #: P2H280172-00	Work Order #.	: E7A811AA	Matrix SOLID
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Date Sampled...: 08/23/02 14:23 Date Received..: 08/27/02 **Prep Date....:** 08/29/02 **Analysis Date..:** 08/30/02 Prep Batch #...: 2241300 Analysis Time..: 14:55

Dilution Pactor: 10

% Moisture....: 21 Method....: SW846 8081A

LIMIT	UNITS
22	ug/kg
22	ug/kg
22	ua/ka

REPORTING

PARAMETER	RESULT	LIMIT	UNITS
Aldrin	ND	22	ug/kg
alpha-BHC	ND	22	ug/kg
gamma-BHC (Lindane)	NE	22	ug/kg
Chlordane (technical)	ND	220	ug/kg
4,4'-DDT	ND	22	ug/kg
Dieldrin	ND	22	ug/kg
Heptachlor	ND:	22	ug/kg
Heptachlor epoxide	XD	85	ug/kg

	PERCENT	RECOVERY
SURROGATE	RECOVERY	LIMITS
Decachlorobiphenyl	0.0 DIL,NC	(50 - 151)
Tetrachloro-m-xylene	0.0 DIL,NC	(64 - 131)

MOTE(S):

Results and reporting limits have been adjusted for dry weight.

DIL The concentration is estimated or not reported due to Silution or the presence of interfering analytes.

NC. The recovery and/or RPD were not calculated.

Chlordane Immunoassay Field Results Summary 341 East Ohio Street

Date:09/3/2002

Sample Location ¹	Sample Date	Time	Sample Type ²	Chlordane Immunoassay
F-12	08/29/2002	8:45	base	0.006
F-14	08/29/2002	8:50	base	0.022
G-20	08/29/2002	8:50	base	0.012
	l		1	

Notes:

- 1- Sample location is the center point of the 10 X 10 meter grid for base of excavation samples.

 The location designation for vertical samples indicates the actual sample location.
- 2 Base Composite sample from the base of the excavation (five grab samples from 100 m2 area).Sidewall Vertical composite of five grab samples from excavation side wall.
- 3 The chlordane immunoassay kit does not differentiate between chlordane and other cyclodienes such as heptachlor, refer to method documentation for information on the relative sensitivities.

Project Name/Number: 341 East Ohio Street, Chicago, Illinois
Area Identification: E-12
Date of Verification Survey: 8/24/02
Time of Verification Survey: \$:45
The above-described excavation was sampled for pesticides at the time and date indicated above. To analytical results indicated that all pesticide-impacted soils have been removed as required by the Si Ramoval Action Criteria.
Documents pertaining to the pre-verification immunoassay and taboratory results for pesticides a attached for review and approval by the USEPA.
Signed:
Signed: ### 19/2 10 2 10
Print Name: Steve C. Komder
Print Title: Senior Project Geochemist .
STS Consultants, Ltd.
The characted Verification Survey documents were reviewed by USEPA, Region 5 of the survey indicate that the pecticide verification criterias discussed in the Amended Removal Action Work Plan (STS, March 2002) and cleanup lever contained in 35 IAC 742 Appendix B, Table A for ingestion and inhalation, have been met. Authorization is hereby granted to commence backfill and restoration work at this excavation.
/'
Signed Unety- Simi
Date: 9/17/02
Print Name: Verneta Simon
Print Title: On-Scene Cockdinator
For I ISEDA Dagino S

Client Sample ID: F-12

GC Semivolatiles

Lot-Sample #:	F2H300266-001	Work Order #:	E7JFE1AA	Matrix:	SOLID
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Date Sampled...: 08/29/02 08:45 Date Received..: 08/30/02
Prep Date....: 09/03/02 Analysis Date..: 09/05/02
Prep Batch #...: 2246517 Analysis Time..: 10:11

Dilution Factor: 1

% Moisture....: 15 Method.....: SW846 8081A

		REPORTING	
PARAMETER	RESULT	LIMIT	UNITS
Aldrin	0.47 J,COL	2.0	ug/kg
alpha-BHC	ND	2.0	ug/kg
gamma-BHC (Lindane)	ND	2.0	ug/kg
Chlordane (technical)	ND	20	ug/kg
4,4'-DDT	0.43 J,COL	2.0	ug/kg
Dieldrin	1.1 J,COL	2.0	ug/kg
Heptachlor	3.5 COL	2.0	ug/kg
Heptachlor epoxide	ND	7.9	ug/kg
	PERCENT	RECOVERY	
SURROGATE	RECOVERY	LIMITS	
Decachlorobiphenyl	81	(50 - 151)	
Tetrachloro-m-xylene	88	(64 - 131)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

COL More than 40% difference between primary and confirmation column results. The lower of the two results is reported.

J Estimated result. Result is less than RL.

Project Name/Number: 341 East Ohio Street, Chicago, Illinois
Area Identification: 12-14
Date of Verification Survey: 8/25/0 z
Time of Verification Survey. 8.50
The above-described excavation was sampled for pesticides at the time and date indicated above. The analytical results indicated that all pesticide impacted sole have been removed as required by the Six Removal Action Criteria.
Documents pertaining to the pre-verification immunoassay and laboratory results for pesticides are attached for review and approved by the USEPA.
Signed: The Charles
Date: 9/9/02
Print Name: Steve C. Komder
Print Title: Senior Project Geochemist
STS Consultants, Ltd.
The attached Verification Survey documents were reviewed by USEPA, Region 5 on The results of this survey indicate that the pesticide verification criterie as discussed in the Amended Removal Action Work Plan (STS, March 2002) and cleanup levels
as discussed in the Amended Removal Action Work Plan (STS, March 2002) and cleanup levels contained in SS IAC 742 Appendix B, Table A for Ingestion and Inhalation, have been met.
Authorization is hereby granted to commence backful and restoration work at this excavation.
signed Verneta Simo.
Dete: 9/17/12_
Print Name: Veeneta Simon
Print Tibe On-Scene Goodinator.
For USEPA Penion 5

Client Sample ID: F-14

GC Semivolatiles

Lot-Sample #:	F2H300266-002	Work Order	#: E7JFL1AA	Matrix	: SOLID
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 Date Sampled...:
 08/29/02
 09:50
 Date Received...:
 08/30/02

 Prep Date.....:
 09/03/02
 Analysis Date...:
 09/05/02

 Prep Batch #...:
 2246517
 Analysis Time...:
 10:51

Dilution Factor: 1

% Moisture....: 13 **Method.....:** SW846 8081A

		REPORTING	
PARAMETER	RESULT	LIMIT	UNITS
Aldrin	ND	2.0	ug/kg
alpha-BHC	ND	2.0	ug/kg
gamma-BHC (Lindane)	ND	2.0	ug/kg
Chlordane (technical)	ND	20	ug/kg
4,4'-DDT	ND	2.0	ug/kg
Dieldrin	ND	2.0	ug/kg
Heptachlor	ND	2.0	ug/kg
Heptachlor epoxide	ND	7.7	ug/kg
	PERCENT	RECOVERY	7
SURROGATE	RECOVERY	LIMITS	
Decachlorobiphenyl	74	(50 - 151)	
Tetrachloro-m-xylene	77	(64 - 13	11)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Project Name/Number: 341 East Ohio Street, Chicago, Illinois
Area Identification: 6-20
Date of Verification Survey: 8/24/02
Time of Verification Survey: 8:50
The above-described excavation was sampled for pesticides at the time and date indicated above. The analytical results indicated that all pesticide-impacted soils have been removed as required by the St. Removal Action Criteria.
Documents pertaining to the pre-verification immunoassay and laboratory results for pesticides ar attached for review and approval by the USEPA.
Signed:
Signed:
Print Name: Steve C, Kornder
Print Title: Senior Project Geochemist
STS Consultants, Ltd.
The atlached Verification Survey documents were reviewed by USEPA, Region 5 or 1777. The results of this survey indicate that the pesticide verification criterias discussed in the Amended Removal Action Work Plan (STS, March 2002) and cleanup level contained in 35 IAC 742 Appendix B, Table A for ingestion and inhalation, have been met.
Authorization is hereify granted to commence backfill and restoration work at this excavation.
signed Whier Simi
Dance: 9/17/02
Print Name: VERNETA SIMON
Print Time On-Scene Cookdinature
For USEPA Region 5

Client Sample ID: G-20

GC Semivolatiles

Lot-Sample #: F2H300266-004 Date Sampled: 08/29/02 09:50 Prep Date: 09/03/02 Prep Batch #: 2246517 Dilution Factor: 1	Date Received:	08/30/02 09/05/02	Matrix: SOLID
<pre>% Moisture: 7.3</pre>	Method:	SW846 8081	A
		REPORTING	
PARAMETER	RESULT	LIMIT	UNITS
Aldrin	ND	1.8	ug/kg
alpha-BHC	ND	1.8	ug/kg
gamma-BHC (Lindane)	ND	1.8	ug/kg
Chlordane (technical)	ND	18	ug/kg
4,4'-DDT	ND	1.8	ug/kg
Dieldrin	ND	1.8	ug/kg
Heptachlor	ND	1.8	ug/kg
Heptachlor epoxide	ND	7.2	ug/kg
	PERCENT	RECOVERY	
SURROGATE	RECOVERY	LIMITS	
Decachlorobiphenyl	76	(50 - 151)	
Tetrachloro-m-xylene	81	(64 - 131)	

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Chlordane Immunoassay Field Results Summary 341 East Ohio Street

Date:09/4/2002

Sample Location ¹	Sample Date	Time	Sample Type ²	Chlordane Immunoassay
J-16½	08/29/2002	14:00	base	0.002
J-12	09/04/2002	8:25	base	0.002
J-14	09/04/2002	8:12	base	0.002
K-12	09/04/2002	8:15	vertical	0.001
K-14	09/04/2002	8:12	vertical	0.013

Notes:

- 1- Sample location is the center point of the 10 X 10 meter grid for base of excavation samples. The location designation for vertical samples indicates the actual sample location.
- 2 Caue Composite sample from the base of the excavation (five grab samples from 100 m2 area).

 Sidewall Vertical composite of five grab samples from excavation side wall.
- 3 The chlordane immunoassay lot does not differentiate between chlordane and other cyclodienes such as heptachlor, refer to method documentation for information on the relative sensitivities.

SEP-17-2002 11:26 STS Consultants, Ltd.

Project Name/Number: 341 East Ohio Street, Chicago, Illinois
Area Identification: 5-16/2
Date of Verification Survey: 8/29/07
Time of Verification Survey: 2:00 ampin
The above-described excavation was sampled for pesticides at the time and date indicated above. The analytical results indicated that all pesticide-impacted soils have been removed as required by the Si Removal Action Criteria.
Documents pertaining to the pre-verification immunoassay and laboratory results for pesticides are attached for review and approval by the USEPA.
Signed:
Date: 49/13/07
Print Name: Steve C. Kornder
Print Title: Senior Project Geochemist
STS Consultants, Ltd.
The petrached Verification Survey documents were reviewed by USEPA, Region 5 of this survey indicate that the pesticide verification criterias discussed in the Amended Removal Action Work Plan (STS, March 2002) and cleanup level contained in 35 IAC 742 Appendix B, Table A for ingestion and inhalation, have been met.
Authorization is hereby granted to commence backfill and restoration work at this excavation.
signed: Vernetz Sinn
Date: 9/17/02
Print Name: VERNET SIMON
Print Title: On-Scene Cookdinator
For USEPA Region 6

STS ACQUISITIONS CO. dba STS COMS., LTD.

Client Sample ID: J-16 1/2

GC Semivolatiles

Lot-Sample #: F2I050108-003	Work Order #:	B7PPW1AA	Matrix:	SOLID
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 Date Sampled...:
 08/29/02 14:00 Date Received...:
 09/05/02

 Prep Date.....:
 09/06/02 Analysis Date...:
 09/10/02

 Prep Batch #...:
 2249219 Analysis Time...:
 04:16

Dilution Factor: 1

* Moisture....: 8.0 Method.....: SW846 8081A

REPORT	ING
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PARAMETER	RESULT	LIMIT	UNITS
Aldrin	ND	1.8	ug/kg
alpha-BHC	ND	1.8	ug/kg
gamma-BHC (Lindane)	ND	1.8	ug/kg
Chlordane (technical)	ND	18	ug/kg
4,4'-DOT	ND	1.8	ug/kg
Dieldrin	ND	1.8	ug/kg
Heptachlor	ND	1.8	ug/kg
Heptachlor epoxide	ND	7.3	ug/kg

	PERCENT	RECOVERY
SURROGATE	RECOVERY	LIMITS
Decachlorobiphenyl	78	(50 - 151)
Tetrachloro-m-xylene	76	(64 - 131)

HOTE(S):

Results and reporting fimits have been adjusted for dry weight.

FORM FOR NOTIFICATION OF SUCCESSFUL VERIFICATION SURVEY PESTICIDE

Project Name/Number: 341 East Ohio Street, Chicago, Iffingis
Area Identification:
Date of Verification Survey: 9/4/02
Time of Verification Survey. 8:25
The above-described excavation was sampled for pesticides at the time and date indicated above. The analytical results indicated that all pesticide-impacted soils have been removed as required by the Sit Removal Action Criteria.
Documents pertaining to the pre-verification immunoassay and laboratory results for pesticides an attached for review and approval by the USEPA.
Signed:
Signed:
Print Name: Steve C. Kornder
Print Title: Senior Project Geochemist
STS Consultants, Ltd.
The attached Verification Survey documents were reviewed by USEPA, Region 5 or 1/1/1/0 The results of this survey indicate that the pesticide verification criterias discussed in the Amended Removal Action Work Plan (STS, March 2002) and cleanup level
as discussed in the Amended Removal Action Work Plan (STS, March 2002) and cleanup level contained in 35 IAC 742 Appendix B, Table A for ingestion and inhalation, have been met.
Authorization is hereby granted to commence backfill and restoration work at this excavation.
Signed: Vemen Simon
Signed: Vemen Simon Date: 9/17/02
Print Name: Väleneth Simon
Print Title: On-Scene Couradinaden
For USEPA Region 5

STS ACQUISITIONS CO. dba STS COMS., LTD.

Client Sample ID: J-12

GC Semivolatiles

Lot-Sample #: F2I050108-001	Work Order #:	E7PPT1AA	Matrix SOLID
Date Sampled: 09/04/02 08:25			
Prep Date: 09/06/02			
Prep Batch #: 2249219	Analysis Time:	03:18	
Dilution Pactor: 1	_		
* Moisture: 7.3	Method:	SW846 8081	A
		REPORTING	
PARAMETER	RESULT	LIMIT _	UNITS
Aldrin	ND	1.8	ug/kg
alpha-BHC	ND	1.8	ug/kg
gamma-BHC (Lindane)	ND	1.8	ug/kg
Chlordane (technical)	ND	18	ug/kg
4,4'-DDT	ND	1.8	ug/kg
Dieldrin	ND	1.8	ug/kg
Heptachlor	ND	1.8	ug/kg
Heptachlor epoxide	ND	7.2	ug/kg
	PERCENT	RECOVERY	
SURROGATE	RECOVERY	LIMITS	
Decachlorobiphenyl	127	(50 - 151)	

(64 - 131)

75

BOTE (S):

Results and reporting fields have been adjusted for dry weight.

Tetrachloro-m-xylene

FORM FOR NOTIFICATION OF SUCCESSFUL VERIFICATION SURVEY PESTICIDE

Project Name/Number: 341 East Ohio Street, Chicago, Illinois
Area (dentification:
Date of Verification Survey:
Time of Verification Survey: 8:12 ampm
The above-described excavation was sampled for pesticides at the time and date indicated above. The analytical results indicated that all pesticide-impacted soils have been removed as required by the Site Removal Action Criteria.
Documents pertaining to the pre-verification immunoassay and laboratory results for pesticides an attached for review and approval by the USEPA.
Signed:
Date: 9/13/02
Print Name: Steve C. Kornder
Print Title: Senior Project Geochemist
STS Consultants, Ltd.
The attached Verification Survey documents were reviewed by USEPA, Region 5 or Appendix of this survey indicate that the pesticide verification criteria discussed in the Amended Removal Action Work Plan (STS, March 2002) and cleanup levels contained in 35 IAC 742 Appendix B, Table A for ingestion and inhalation, have been met.
Authorization is hereby granted to commence backfill and restoration work at this excavation.
Signed: Januar Simuri
Date: 9/17/02
Print Name: Verneh Simon
Print Title: On-Scene Cookdinator
For USEPA Region 6

STS ACQUISITIONS CO. dba STS COMS., LTD.

Client Sample ID: J-14

GC Semivolatiles

Lot-Sample #: P2I050108-002 Date Sampled: 09/04/02 08:12 Prep Date: 09/06/02 Prep Batch #: 2249219 Dilution Factor: 1		09/05/02 09/10/02	Matrix: SOLID
* Moisture: 9.6	Method:	SW846 8081	A
		REPORTING	
PARAMETER	RESULT	LIMIT	UNITS
Aldrin	ND	1.9	ug/kg
alpha-BHC	ND	1.9	ug/kg
gamma-BHC (Lindane)	ND	1.9	ug/kg
Chlordane (technical)	ND	19	ug/kg
4,4'-DDT	ND	1.9	ug/kg
Dieldrin	ND	1.9	ug/kg
Heptachlor	ND	1.9	ug/kg
Heptachlor epoxide	ND	7.4	ug/kg

	PERCENT	RECOVERY
SURROGATE	RECOVERY	LIMITS
Decachlorobiphenyl	107	(50 - 151)
Tetrachloro-m-xylene	87	(64 - 131)

MOTE(8):

Results and reporting limits have been adjusted for dry weight.

STS ACQUISITIONS CO. dba STS CONS., LTD.

Client Sample ID: K-12

GC Semivolatiles

Lot-Sample #...: F2I050108-004 Work Order #...: E7PPX1AA Matrix.....: SOLID

 Date Sampled...:
 09/04/02
 08:15
 Date Received...:
 09/05/02

 Prep Date....:
 09/06/02
 Analysis Date...:
 09/10/02

 Prep Batch #...:
 2249219
 Analysis Time...:
 06:13

Dilution Factor: 10

* Moisture....: 13 Method.....: SW846 8081A

	REPORTING		G
PARAMETER	RESULT	LIMIT	UNITS
Aldrin	ND	20	ug/kg
alpha-BHC	ND	20	ug/kg
gamma-BHC (Lindane)	ND	20	ug/kg
Chlordane (technical)	ND	200	ug/kg
4,4'-DDT	ND	20	ug/kg
Dieldrin	ND	20	ug/kg
Heptachlor	ND	20	ug/kg
Heptachlor epoxide	ND	77	ug/kg
	PERCENT	RECOVERY	•
SURROGATE	RECOVERY	LIMITS	
Decachlorobiphenyl	0.0 DIL,NC	(50 - 15	1)
Tetrachloro-m-xylene	0.0 DIL,NC	(64 - 13	1)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

LOT # F2I050108

11

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

NC The recovery and/or RPD were not calculated.

STS ACQUISITIONS CO. dba STS COMS., LTD.

Client Sample ID: K-14

GC Semivolatiles

Lot-Sample #:	F2I050108-005	Work Order #:	E7PP01AA	Matrix SOLID
			00/05/00	

 Date Sampled...:
 09/04/02
 08:20
 Date Received...:
 09/05/02

 Prep Date....:
 09/06/02
 Analysis Date...:
 09/10/02

 Prep Batch \$...:
 2249219
 Analysis Time...:
 06:42

Dilution Factor: 10

* Moisture....: 11 Method.....: SW846 8081A

		REPORTING	G
PARAMETER	RESULT	LIMIT	UNITS
Aldrin	ND	19	ug/kg
alpha-BHC	ND	19	ug/kg
gamma-BHC (Lindane)	ND	19	ug/kg
Chlordane (technical)	ND	190	ug/kg
4,4'-DDT	NID	19	ug/kg
Dieldrin	ND	19	ug/kg
Heptachlor	NO	19	ug/kg
Heptachlor epoxide	ND	75	ug/kg
	PERCENT	RECOVERY	
SURROGATE	RECOVERY	LIMITS	
Decachlorobiphenyl	0.0 DIL,NC	(50 - 15	1)
Tetrachloro-m-xylene	0.0 DIL,NC	(64 - 13)	1)

MOTE (S):

Results and reporting firms have been adjusted for dry weight.

DLL. The concentration is estimated or not reported due to dilution or the presence of exerfering analyses.

MC. The recovery und/or RPD were not calculated.

Chlordane Immunoassay Field Results Summary 341 East Ohio Street

Date:10/16/2002

Sample Location ¹	Sample Date	Time	Sample Type ²	Chlordane Immunoassay Field Kit ³ (mg/kg)
K-12	09/04/2002	8:15	vertical	0.001
K-14	09/04/2002	8:12	vertical	0.013
H-6(3)	10/03/2002	10:20	base	ND-0.039 ^a

Notes:

- 1- Sample location is the center point of the 10 X 10 meter grid for base of excavation samples.

 The location designation for vertical samples indicates the actual sample location.
- 2 Base Composite sample from the base of the excavation (five grab samples from 100 m2 area).Sidewall Vertical composite of five grab samples from excavation side wall.
- 3 The chlordane immunoassay kit does not differentiate between chlordane and other cyclodienes such as heptachlor, refer to method documentation for information on the relative sensitivities.
- a Three individual immunoassay tests were run on geoprobe samples collected prior excavation to determine vertical extent of the contaminants. Composite from same strata submitted for lab analysis following excavation.

847 279 2535 P.04/04 . DCT-16-2002 11:33 STS SEPA REGION 5 ID:312-353-9176 DCT 16'02 11:00 No.003 P.04

USEPA REGION 5

FORM FOR NOTIFICATION OF SUCCESSFUL VERIFICATION SURVEY PESTICIDE

Project Name/Number: 341 East Orio Street, Chicago, Minois
Area Identification: K-12 (uestica (composite)
Date of Verification Survey: 9/4/pz
Time of Verification Survey: 8.15 The above described excavation was sampled for pesticides at the time and date indicated above. The
The above-described excavation was sampled for pesticides at the time and date indicated above. The analytical results indicated that all pesticide-impacted soils have been removed as required by the Sit Removal Action Criteria.
Documents pertaining to the pre-verification immunoassay and laboratory results for pesticides are attached for review and approval by the USEPA.
Signed: Signed:
Signed:
Print Name: Steve C. Komder
Print Title: Senior Protect Geochemist
STS Consultants, Ltd.
The attached, Verification Survey documents were reviewed by USEPA, Region 5 o U U U C Z . The results of this survey indicate that the pesticide verification criterias discussed in the Amended Removal Action Work Plan (STS, March 2002) and cleanup level
contained in 35 IAC 742 Appendix B, Table A for ingestion and inhalation, have been met.
Authorization is hereby granted to commence backfill and restoration work at this excavation.
Signed: Vernita Simi
Date: 10/14/02
Print Name: Vercrein Surva
Print Title: On-Surne Coordinator
For USEPA Region 5

STS ACQUISITIONS CO. dba STS CONS., LTD.

Client Sample ID: K-12

GC Semivolatiles

Lot-Sample #: F2I	1050108-004 Work Order	#: E7PPX1AA	Matrix:	SOLID
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 Date Sampled...:
 09/04/02
 08:15
 Date Received...:
 09/05/02

 Prep Date....:
 09/06/02
 Analysis Date...:
 09/10/02

 Prep Batch #...:
 2249219
 Analysis Time...:
 06:13

Dilution Factor: 10

*** Moisture....:** 13 Method.....: SW846 8081A

		REPORTING	ļ
PARAMETER	RESULT	LIMIT	UNITS
Aldrin	ND	20	ug/kg
alpha-BHC	ND	20	ug/kg
gamma-BHC (Lindane)	ND	20	ug/kg
Chlordane (technical)	ND	200	ug/kg
4,4'-DDT	ND	20	ug/kg
Dieldrin	ND	20	ug/kg
Heptachlor	ND	20	ug/kg
Heptachlor epoxide	ND	39	ug/kg
	PERCENT	RECOVERY	
SURROGATE	RECOVERY	LIMITS	_
Decachlorobiphenyl	0.0 DIL,NC	(50 - 151	.)
Tetrachloro-m-xylene	0.0 DIL,NC	(64 - 131	.)

NOTE(S):

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

NC The recovery and/or RPD were not calculated.

Results and reporting limits have been adjusted for dry weight.

SEPA REGION 5 ID:312-353-9176 DCT 16'02 11:00 No.003 P.03

FORM FOR NOTIFICATION OF SUCCESSFUL VERIFICATION SURVEY PESTICIDE

Project NumerNumber: 341 Cast Unio Street, Chicago, Italnois
Area Identification: K-14 (Vertical congression)
Date of Verification Survey:
Time of Verification Survey: 812
The above-described excavation was sampled for pecticides at the time and date indicated above. The analytical results indicated that an pesticide-impacted soils have been removed as required by the Site Removal Action Criteria.
Documents pertaining to the pre-verification immunoassay and laboratory results for pesticides are attached for review and approval by the USEPA.
Signed: Signed:
Date:
Print Name: Steve C. Komder
Print Title: Senior Project Geochemist
878 Consultante, Ltd.
The attaiched Verification Survey documents were reviewed by USEPA, Region 5 or 10 10 10 10 10 10 10 10 10 10 10 10 10
Authorization is hereby granted to commence backfill and restoration work at this excavation.
signed: Yourch Sim
Date: 10/16/02
Print Name: Verticha Sinun
Print Title: On Scene Cookedinator
For USEPA Region 5

STS ACQUISITIONS CO. dba STS CONS., LTD.

Client Sample ID: K-14

GC Semivolatiles

Lot-Sample #:	F2I050108-005	Work Order #:	E7PP01AA	Matrix:	SOLID
---------------	---------------	---------------	----------	---------	-------

 Date Sampled...:
 09/04/02 08:20
 Date Received...:
 09/05/02

 Prep Date.....:
 09/06/02
 Analysis Date...:
 09/10/02

 Prep Batch #...:
 2249219
 Analysis Time...:
 06:42

Dilution Factor: 10

*** Moisture....:** 11 Method.....: SW846 8081A

		REPORTING	G
PARAMETER	RESULT	LIMIT	UNITS
Aldrin	ND	19	ug/kg
alpha-BHC	ND	19	ug/kg
gamma-BHC (Lindane)	ND	19	ug/kg
Chlordane (technical)	ND	190	ug/kg
4,4'-DDT	ND	19	ug/kg
Dieldrin	ND	19	ug/kg
Heptachlor	ND	19	ug/kg
Heptachlor epoxide	ND	38	ug/kg
	PERCENT	RECOVERY	
SURROGATE	RECOVERY	LIMITS	
Decachlorobiphenyl	0.0 DIL,NC	(50 - 15	1)
Tetrachloro-m-xylene	0.0 DIL,NC	(64 - 13	1)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

NC The recovery and/or RPD were not calculated.

FORM FOR NOTIFICATION OF SUCCESSFUL VERIFICATION SURVEY PESTICIDE

Project Name/Number: 341 East Ohio Street, Chicago, Illinois
Area Identification: H-6 (Sample H6-3)
Date of Verification Survey: 10/3/02
Time of Verification Survey: 10:20
The above-described excavation was sampled for pasticides at the time and date indicated above. The analytical results indicated that all pesticide-impacted solls have been removed as required by the Site Removal Action Criteria.
Documents pertaining to the pre-verification immunoassay and laboratory results for pesticides are attached for review and approval by the USEPA.
Signed:
Dale:
Print Name: Steve C. Kornder
Print Title: Senior Project Geochemist
STS Consultants, Ltd.
The exactned Verification Survey documents were reviewed by USEPA, Region 5 on 10 10 10 2. The results of this survey indicate that the pesticide verification criteries discussed in the Amended Removal Action Work Plan (81%, March 2002) and cleanup levels
contained in 35 IAC 742 Appendix B, Table A for ingestion and inhalation, have been met.
Authorization is hereby, granted to commence beckfill and restoration work at this excavation.
Signed Verneton Simi
Dute: 10/16/c2
Print Name: Veenety Simon
Print Title: On-Scene Cocedinates
For USEPA Region 5

STS ACQUISITIONS CO. dba STS CONS., LTD.

Client Sample ID: H6-3

GC Semivolatiles

roc-sampre #:	F2J040269-001	work Order #:	ESFOWLAA	Matrix SOLID
Date Sampled:	10/03/02 10:20	Date Received:	10/04/02	

 Prep Date....: 10/07/02
 Analysis Date..: 10/10/02

 Prep Batch #...: 2280295
 Analysis Time..: 22:05

Dilution Factor: 1

% Moisture....: 19 Method....: SW846 8081A

		REPORTING	3
PARAMETER	RESULT	<u>LIMIT</u>	UNITS
Aldrin	ND	2.1	ug/kg
alpha-BHC	ND	2.1	ug/kg
gamma-BHC (Lindane)	ND	2.1	ug/kg
Chlordane (technical)	ND	21	ug/kg
4,4'-DDT	ND	2.1	ug/kg
Dieldrin	ND	2.1	ug/kg
Heptachlor	7.5	2.1	ug/kg
Heptachlor epoxide	ND	8.3	ug/kg
	PERCENT	RECOVERY	
SURROGATE	RECOVERY	LIMITS	
Decachlorobiphenyl	121	(52 - 130))
Tetrachloro-m-xylene	96	(60 - 119))

NOTE(S):

Results and reporting limits have been adjusted for dry weight.



APPENDIX G

Soil Sample Analyses a. Radiological i. NUTRANL

- - ii. RSSI Gamma Spectroscopy
- b. Pesticide

 - i. Field Immunoassay ii. Severn Trent Laboratories



Radiological



Exclusion Zone

Nutranl Gamma Spec Report- 341 East Ohio Street Site Exclusion Zone

	F11 - 6 5 1		•						CXCIGSIO	ii Zone							
Complete Sample ID	Sample Date	trani Samp Sample Group exclusion	Description	Weight	U-238 Activity	U-238 Uncertainty	Th-232 Activity	Th-232 Uncertainty	Ra-226 Activity	Ra-226 Uncertainty	Total Radium Activity	Total Radium Uncertainty					
36	6/7/0	2 zone	A 75-5 S1001 A/2 75-3 5 WALL	28 9	-49 45	12 59	146 36	3 62	18 88	4 19	165 24	5 537192429	54 62	159 83	7 138242081	-93 07254	33 43164
655	8/2/0	2 zone exclusion	S1361	29 3	-0 99	3 92	4 58	1 14	1 28	1 46	5 86	1 852349859	11 19	0 87	0 932308962	-0 42966	3 66234
71	6/10/0		B 5-5 75 S1034	17	1 08	7 96	53 98	2 23	24 35	2 74	78 33	3 532775113	14 72	0 67	1 080046295	-9 98448	4 092
88	6/11/0	2 zone	B 5-9 S1049	30 1	-0 63	1 96	4 57	0.58	3 53	0.73	8.1	0 93236259	10 49	3 98	0 95	3 29406	3 9897
555	7/19/0	exclusion 2 zone exclusion	B 75-6 25 S1281	. 18 5	30 07	9 07	105 67	. 256	11 97	2 93	. 117 64	3 890822535	18 67	20 29	1 979520144	3 9897	9 207
. 607	7/24/0:		B-2 25 S1327	23 6	6 72	6 28	12 32	1 75	2 81	2 15	15 13	2 772183255	14 31	0 43	1 210165278	-12 1737	4 56258
i . 37	6/7/0:	2 zone	B-4 5 S1002	28	45 49	16 34	141 46	4 68	18 37	5 39	159 83	7 138242081	31 72	155 89	4 159062394	-50 76126	18 3117
903	9/30/0		C 1-24 S1531	. 21 9	5 76	7 23	26 82	2 01	8 2	2 42	35 02	3 145870309	13 37	1 32	1.018331969	1 45266	4 17384
48	6/7/0	exclusion 2 zone	C 2-3 5 S1013	198	-0.97	2 04	3.77	06	6 76	08.	10 53	1	. 11 71	4 04	0 992018145	-5 44236	3 9897
155	6/18/0	exclusion 2 zone exclusion	C 5-9 2 S1076	29.3	-256.07	49 27	600 79	13 99	33 29	15 72	634 08	21 04372828	571 97:	1357 44	86 1239415	-1359 48516	384 17742
267	6/25/0	071010010	C-16 S1133	30 6	0 13	3 92	14 92	1 13	5 96	. 1.4:	20 88	1 799138683	11 07	6 78	1 056030303	3.90786	4 56258
: 191	6/19/0	2 zone exclusion	D 8-9 5 S1095	34 1	-1577.47	499 9	2140 03	145 03	1328 61	180 64	3468 64	231 6560176	15 78	0 65	1 470544117	-3 7 44 18 [:]	5 54466
221	6/21/0		D-10 S1106	19	-80.65	27 55	207 66	7 83	. 61 54	9 38	269 2	12 21856375	19 72	18 95	2 12708721	10.41414	9 5139
101	6/12/0		D-5 5 S1060	32 7	-36 24	13 3	207 42	3 76	81 76	4 53	289 18	5 887147017	13 87	12 7	1 366528448	10 00494	6 09708
133	6/17/0		D-6 5 S1071	37 3	36	2 88	2 27	0 82	1 81	1.08	4 08	1 356023599	10 53	3 18	0 984073168	8 22492	4 27614
157	6/18/0		D-9 6 S1078	35	-12 07	7 21	17 99	2 1	37 61	2 88;	55 6	3 564323218	10 06	5 2	0 892020179	1 04346	3 80556
156	6/18/0		D-9 8 S1077	43	-664 46	187 77	945 81	54 63	411 63	66 58	1357 44	86 1239415	29 64	55 6	3 564323218	-24 69522	14 75166
222	6/21/0		E.5-10 S1107	25 2	5 09	4 65	11 5	1 33	7 45	1 66	18 95	2 12708721	14 31	-0 49	1 112519663	-0 59334	4 7058
278	6/25/0		E 5-10 5 S1134	27	12 29	9 09	21 53	2 52	30 12	3 37	51 65 [°]	4 208004278	18 57	5 68	1 846212339	12 54198	8 14308
279	6/25/0	2 zone exclusion	E.5-11 2 S1135	32 6	6 13	3 98	3 23	1 13	2 45	1 46:	5 68	1 846212339	19 13	7 54	1 768162888	3 90786	7 63158
280	6/25/0	2 zone exclusion	E.5-11 5 S1136	29	1 91	3 73	4 15	1 08	3 39	. 1 4:	7 54	1 768162888	17 32 ·	23 16	2 004120755	7 22238	8 71596
: 631	7/30/0	2 zone exclusion	E 5-2 S1343	20 8	3 95	3 13	0 1	0.9	7 3	1 29	7 4	1 572927207	13 94	0 46	1 298499134	2 43474	5 17638
. 201	6/20/0	2 zone exclusion	E 5-3 5 S1098	165	12 57	11 94	109 24	3 34	6 15	3 77	115 39	5 036715199	19 1	14 17	2 05	10 23	9 57528
: 199	6/20/0	2 zone exclusion	€ 7-5 2 S1096	25 8	-6 93	5 45	18 68	1 58	7 39	1 97 [:]	26 07	2 525331661	25 8	22 69	2 71309786	-3 10992	12 84868
:281	6/25/0	2 zone exclusion	E-11 S1137	34.5	3,53	4 26	11 77	1 22	11 39	1 59	. 23 16	2 004120755	15 24	-1 06	1 12200713	3 33498	4 78764
289	6/26/0	2 zone exclusion	E-12 S1138	34 7	7 14	5 28	13 72	1 49	7 83	1 83	21 55	2 359872878	19 03	3 95	1 582213639	10 80288	7 12008
302	6/27/0	2 zone exclusion	E-12 S1144	30 3	2 45	5 99	20 73	1 72	20 1	2 23	40 83	2 81625638	24 61	44 4	2 660169168	-8 02032	11 51898
303	6/27/0	2 zone exclusion	E-12 S1145	27 8	-3 92	5 63	19 54	1 62	24 86	2 11	44 4	2 660169168	20	2 79	1 690266251	3 96924	7 24284
324	6/28/0	2 zone exclusion	E-7 S1154	31 7	0 48	3 08	2 01	0 91	4 23	1 24	6 24	1 538083223	19 71	2 91	1 554155719	-1 1253	6 73134
200	6/20/0	2 zone exclusion	F 5-3 5 S1097	18 9	-1 52	6.28	22 92	1 8	U 53	5.03	22 69	2 71309786	34 74	115 39	5 036715199	-25 71822	24 42924
353	: 7/1/C	2 zone exclusion	F 5-8 5 S1166	31 2	-9 04	8 78	54 08	2 48	11.42	2 89	65 5	3 808214805	38 38	94 28	4 853215429	-26 04558	23 46762
355	7/1/0	2 zone exclusion	F 5-9 S1168	29 3	-6 15	4 77	12 55	1 41	0 99	1 62	11 56	2 147673159	13 55	-0 18	1 056834897	7 8771	4 46028
436	7/9/0	2 zone	F _. 5-9 S1211	22 5	2 4	2 24	4 45	0 6ನ	0 43	0 84	4 88	1 068269629	13 48	3 86	1 092016483	-0 22506	4 72626

1 of 3

Nutranl Gamma Spec Report- 341 East Ohio Street Site Exclusion Zone

Complete	Eila of Nutr		le.c						EXCIUSIO	n Zone							
Sample ID	File of Nutr Sample Date	Sample Group	Description	Weight	U-238 Activity	U-238 Uncertainty	Th-232 Activity	Th-232 Uncertainty	Ra-226 Activity	Ra-226 Uncertainty	Total Radium Activity	Total Radium Uncertainty					
437	7/9/02		F 5-9 5 S1212	23 3	-0 11	2 31	2 21	0 66	1 65	0 87	. 3 86	1 092016483	22 5	24 08	2 312055363	-7 5702	9 73896
369	7/2/02		F 8-5 5 S1170	26	-262 29	61 32	507 12	17 47	70 86	20 1	577 98	26 63101387	27 64	55 68	3 553322389	2 046	17 04318
. 556	7/19/02	exclusion zone exclusion	F-14 S1282	42 2	1 95	4 5	18 28	1 28	2 01	1 51	20 29	1 979520144	17 13	0 69	1 830027322	-5 40144	7 161
202	6/20/02	zone	F-5 5 S1099	22 3	5	4 68	13 03	1 33	1 14	1 56	14 17	2 05	18 54	26 48	2 12868504	14 38338	9 63666
203	6/20/02	exclusion zone exclusion	F-6 2 S1100	29.8	7 03	471	15 8	1,32	10 68	1 67	26 48	2 12868504	. 15 82.	0 61	1 358013255	-12 97164	4 99224
329	6/28/02		F-7 5 S1159	29 1	-3 13	5 88	30 71	1 67	6 96	1 97	37 67	2 582595594	12 99	-0 16	0 998649088	5 44236	4 1943
354	7/1/02		F-8 5 S1167	28 2	-12.73]	11 47	85 65	3.21	8 63	3 64	94 28	4 853215429	22 69	11 56	2 147673159	-12 5829	9 75942
439	7/9/02		G.3-3 S1214	27 4	-1226 87	256 81	1264 85	76 37	133 44	87 27	1398 29	115 9673652.	21 89	23 85	2 644125564	-1 41174	11 84634
854	9/18/02		<u>G</u> 5/21 5 S1496	31	0 96·	5 14	. 94	1 47	1 79	1 81	11 19	2 33173755	18 88	11.77	1 704142013	5 36052	7 52928
. 855	9/18/02		G 5/22 S1497	30 5	2 62	3 68	6 03	1 04	5 74	1 35	11 77	1 704142013	12 42	1 14	0 97200823	-0 49104	4 092
899	9/26/02		G 5/24 2 S1529	31.4.	1 26	5 65	. 20 33	1 62	8 19	1 94,	28.52°	2 527449307	15 94	8 42	1 432236014	1 45266	6 2403
: 536 :	. 7/17/02		G 5-11 S1266	33 9	-2 16	4 59	20 59	1 31	2 92	1 6	23 51	2 067873304	24 86	21 45	2 491605908	-4 17384	11 37576
551	7/18/02		G 5-12 S1279	31 5	-2 05	3.18	. 4 44	0 94	0 46	1 1.6	4.9	1 493050568	24.82	45 13	3 234439673	8 22492	15 40638
438	7/9/02		G 5-2 S1213	21	-3 7	4 76	11,89	1 4	12 19	1 84	24 08	2 312055363	753 29.	1398 29	115 9673652	-2510 17602	525 43326
709		zone exclusion	G.5-20 5 S1401	28 9	-326 31	83 37	769 74	23 66	217 97	28 09 :	987 71	36 72660752	10.21	-0 02	0 810246876	-0 85932	3 21222
440		zone exclusion	G.5-3 S1215	19.5	-0 69	5 79 ⁻	17 01	1 67	6 84	2 05	23 85	2 644125564	11 11	-0 26	0 870057469	-0 53196	3 64188
460			G 5-5 5 S1218 G 5-H/20-21	30 9	0 42	4.08	4 12	12	2,88	1 56	7	1 968146336.	15 4 :	23 56	1 666433317	6 83364	7 34514
793		zone QC exclusion	S1455 G 75/23 75	31 8	-12 86	12 16	193 12	3 39	48 94	4 01	242 06	5 250923728	20 08	40 25	2 566320323	-9 26838	12 13278
900		zone exclusion	S1530	24.	0 71	3 05-	4 5	0 88	3 92	1 13	8 4 2 [:]	1 432236014	11 13	-0 02	0 860232527	2 10738	3 56004
461		exclusion	G.8-5.5 S1219	31 2	3 34	3 59	13 01	1 03	10 55	1 31	23 56	1 666433317	13 04	-0 85	1 086001842	6 19938	4 7058
537		zone exclusion	G-11 S1267	34 .	-2 04	5 56	. 18 16	16	3 29	1 91	21 45	2 491605908	772 29,	1435 89	116 9259903	-2341 38102	535 35636
: 371		exclusion	G-2 S1172	22 9	-171 86	31 33	365 21	8 93	39 54	10 2	404 75	13 55672896	15 43	0 66	1 284562182	-3.069	4 95132
: 370		exclusion	G-2.5 S1171	28 4	1	8 33	46 29		9 39	2 7	55 68	3 553322389	94 54	404 75	13 55672896	-351 62556	64 10118
459		exclusion	G-7 S1217	. 29	-3 7 [:]	2 05	7 07	0.61	3 03	0.78	10.1	0 990202	20 01	7	1 968146336	-0 85932	8 34768
388	:	exclusion	G-8 S1180	42 6	24 54	20 14	96 32		155 69	7.8	252 01	9 714118591	39 8	165 4	5 039781741	-21 60576	22,6083
550		exclusion	H 5-11 S1278	. 33	4 82	3 34	4 84		1 36		6 2	1 504160896	17 83	49	1 493050568	-4 1943	6 50628
516		exclusion	H 5-3 S1255	. 24 8	-179 85 :	38 48	406 97		50 02		456 99	16 58302747	16 54	1 26	1 398463442	-6 15846	5 23776
515		exclusion	H 5-4 S1254	27 1	-4 66	7 18			13 23		33 78		111 6	456 99	16 58302747	-367 9731	78 73008
. 525	:	exclusion	H 5-8 5 S1258	21	-3 39	4 18			3 55		7.1	2 084034549	15 27	4 98	1 342013413	-5 07408	5 44236
521	:	exclusion	H 8-3 S1256	30 7	4 35	3 84			3 71	1 34	15 56	1 727338994	23 91	12 85	2 416153969	11 80542	11 1507
. 522		exclusion	H.8-4 S1257	33 7	5 77	. 5 45			2 91	1 87	12 85	2 416153969	13 39	-0 04	1 060188662	3 76464	4 480 4
708	:	exclusion	H/20 25 S1400	29 4	-26 32	14 81	147 94				178 26	6 431990361	245 98	987 71	36 72660752	-667 63026	170 57502
545	7/18/02	zone	H-11 S1273	30 1	0 68	2 38	9.1	0 69	2 31	0.86 2.of.3	11 41	1 102587865	21.76	4 32	1 862068742	1 37082 C WINDOWS/Deskt	7 95894

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Nutrani Gamma Spec Report- 341 East Ohio Street Site Exclusion Zone

Complete F	ile of Nutrani	l Sample	ne.						Exclusio	n Zone								
	Sample Sa	ample Broup clusion	Description	Weight	U-238 Activity	U-238 Uncertainty	Th-232 Activity	Th-232 Uncertainty	Ra-226 Activity	Ra-226 Uncertainty	Total Radium Activity	Total Radium Uncertainty						
634	7/31/02 zor	ne l	H-18 5 S1344	37 3	11 23	11 2	36 82	3 1	0 75	3 42	. 37 57	4 615885614	17 53	1 45	1 410141837	-8 98194	5 64696	
512	7/12/02 zor		H-3 S1251	20 7	-17 89	11 16	115 42	3 15	70 21	3 92	185 63	5 028807016	63 37	205 38	9 339486067	-192 28308	43 92762	
. 514	7/12/02 zor		H-3 5 S1253	21 2	44 82	14 58	128 81	4 13	8 63	4 68	137 44	6 24173854	27 04	33 78	3 379600568	-9 53436	14 69028	
513.	7/12/02 zor		H-4 S1252	23 6	-93 98	21 47	187 35	6 16	18 03	7 02	205 38	9 339486067	43 87	137 44	6 24173854	-9 1 70172	29 83068	
443	7/10/02 zor		H-5 S1216	34.8	7 44	. 4 45	10 52	1 34	5 22	17.	15 74	2 164624679	13 67	3 87	1 228006515	0 77748	5 115	
474	7/11/02 zor		H-8 S1220	35.8	4 92	3 6	5 49	1 01	3 92	1 32	9 41	1 662077014	15 23	3 46	1 256025477	-0 7161	5 27868	
635	7/31/02 zor		H-9 S1345	38.5.	-4 39	2 76	0.91	0 83	0 54	1 14	1 45	1 410141837	12 36·	2 09	0 990202	8 20446	4 46028	
726	8/16/02-zor		1.5-10 25 S1412	31 4	14 51	10 36	44 17	2 82	4 53	3 25.	48 7	4 302894375	3679 89	4206 71	562 3376537	-9871 97046	2487 1176	
530	7/16/02 zor		I.5-9 5 S1262	34.5	2	3 15	6,01	0 91	1 24	1 15	7 25	1 466492414	4863 07	4598 69	745 9769941	-12146 9997	3155 01384	
736	8/20/02 zor		I.75/19 5 S1418	33 7	-555 13	129 87	1944 61	36 45	205 44	41 55	2150 05	55 27209965	243 93	2084 9	37 90082453	-1256 50998	181 64388	
727	8/16/02 zor		1,75-10 5 S1413	39.3	-4825 01	1215 6	3752 32	369 48	454 39	423 92	4206 71	562 3376537	24 28	33	2 911099449	14 19924	13 1967	
532	7/16/02 zor		I-10 S1264	29.3	-3 15	3 16	1 54	0 93	8 92	1 33	10 46	1 622898641	12 29	-0 26	0 97416631	4 56258	4 1943	
535	7/17/02 zor		J-10 5 S1265	32.2	7 11	4 42	5 64	1 23	3 25	1 58		2 00232365	15 6	23 51	2 067873304	-4 41936	9 39114	
552	7/18/02 zor	clusion ne l clusion	I-10 5 S1280	30	4.02	7 53	39 72	2 1	5 41	2 46	4 5 13	3 234439673.	13 6 [:]	-0 54	1 056030303	-3.9897	4 3989	
538	7/17/02 zor		I-11 S1268	347.	-1144.37	261 66	1304.63	77.06	131 26	87 94	1435 89 ³	116 9259903	13 89	4 25	1 156027681	-2 16876	4 86948	
526	7/16/02 zor		I-7 5 S1259	22 5	-2 48	2 66	1 7	0 81	3 28	1 07	4 98	1 342013413	88.	6 21	0 784091831	0 85932	3 3759	
527	7/16/02 zor		I-9 S1260	18 5	0 42	1,65	3 17	0 48	. 3 04	0 62	6 21	0 784091831	20 21	6 83	1 804134141	7 83618	7 9794	
528	7/16/02 zor		I-9 5 S1261	30	3.83	3 9	4 25	1 1	2 58	1 43	6 83	1 804134141	17 87	8 26	1 82428068	6 15846	7 81572	
531	7/16/02 zor		I-9 5 S1263	48 8	5936.95	1542 04	3,809 19	482 01	789 5	569 34	4598 69	745 9769941	17 49	10 46	1 622898641	-6 4449	6 46536	
735	8/20/02 zor		J 5/19 S1417	33 1	-176 16	62 44	630 26	17 58	90 45	20 17	720 71	26 75603296	365 46	2150 05	55 27209965	-1135.79598	265 71402	
738	8/20/02 zor	ne clusion	J 5/19 5 S1420	30 1	-6634 68	1397 23	6867 _. 1	415 56	3249 45	514 88	10116 55	661 6581655	10 83	-0 12	0 866083137	-2 31198	3 49866	
757	8/26/02 zor		J 75/10 9 S1431	33 1	-816 17	151 44	1683 82	43 04	91 03	48 24	1774 85	64 64935576	11 47	3 32	1 020049018	6 138	4 37844	
	8/20/02 zor		J 75/18 5 S1419	29.6	614 13	88 78	1889 85	25 03	195 05	28 46	2084 9	37 90082453	4510 86	10116 55	661 6581655	-13574 55528	2858 73258	
728	8/16/02 zoi		J-11 S1414	26 6	6 94	6 45	20 51	1 81	12 49	2 28	33	2 911099449	13 37	-0 19	1 170683561	5 19684	4 88994	
719	8/16/02 zor		J-9 5 S1405	24 1	-9 28	4 69	25 31	1 37	8 43	1 65	. 33 74	2 144621179	16 44	1 56	1 45	9 37068	5 74926	
792	9/4/02 zor	*. * * . *	K-18 5 S1454	28 1	-3555 51	745 92	5421 13	216 24	1988 23	261 86:	7409 36	339 6032939	35 83	242 06	5 250923728	-26 31156	24 67936	
790	9/4/02 zoi		L 25-6 S1452	26 3	-40 75	16 41	193 04	46	17 29	5 2-	210 33	6 942621983	49 67	240 55	7 303019923	129 1026	35 25258	
. 791 :	9/4/02 zoi	ne	L 25-6 25 S1453 L 5/5 75-6 5	. 27 2	-63 1	17 23	224 47	4.85	16 08	5 46	240 55	7 303019923	2275 67	7409 36	339 6032939	-7274 57346	1526 15232	
794	9/4/02 zo			29 9	-4 53	5 93	37 42	1 68	2 83	1 94	40 25	2 566320323	11 51	-0 35	0 958018789	3 2736	4 17384	
· 847	9/13/02 zoi	0.00.0	L-19 S1495	31 7	-3 46	8 06	59 58	2 27	g 7g	2 63.	69 37	3 474161769	16 21	-0.15	1 380036231	-4 092	5 48328	
810 [:]	9/5/02 zoi	ne	M-8 1 S1470 N 2-10 2 North	27 6	-1 32	2 9	5 14	0.86	2 17	1 09	7 31	1 388416364	15 24	5 9	1 456021978	0 87978	6 26076	
828	9/11/02 zoi	ne	Wall S1480 N-10 North Wall	26 4	4 92	2 38	1 19	0 67	1 29	0.89	2 48	1 114001795	12 68	0 96	1 05	5 66742	4 46028	
842 [:]			S1494	. 25 9	91 15	21.6	225 01	6 14	15 65	6 95	240 66	9 273731719	12.37	-0 67	0 893084542	6 3426	3 76464	

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Pre-EPA

Nutranl Gamma Spec Report- 341 East Ohio Street Site Pre-EPA

								Pre-EPA							
Sample ID	e File of Nutranl Sam Sample Sample Date Group	Description		Veight	U-238 Activity	U-238 Uncertainty	Th-232 Activity	Th-232 Uncertainty	Ra-226 Activity	Ra-226 Uncertainty	Total Radium Activity	Uncertainty			
65 65			21 7 26	3 55 0 53	2 22 2 36	1 35 2 1	0 63 0 7	3 06 2 75	0 86 0 92	4 41 4 85	1 06606754 1 156027681	15 17 11 77	0 77 1 248519123 8 17 1 130707743	12 05094 -7 48836	5 38098 4 8081
65	59 8/5/02 Pre EPA	A/12 25 S1363	31 3	-3 66	2 35	6.07	071	2 1	0.88	8 17	1 130707743	15 65	0 31 1 398463442	0 65472	5 7288
. 66		A-12 25 S1365	34 .	-1 72	3 35	€ 06	0.98	1 01	1 22	7 07	1 564864211	15 33	-0 19 1 14621115	-7 91802	4.35798
•	:	B-4 5 Pre-EPA #1	22 8	3 13	3 34	1 98	0.06	1 53	1 23	3 51	1 560288435	15 94		-14 75166	5 46282
7:		B-4 5 Pre-EPA #2	24 6	-7 21	2 67	2 95	0.83	3 07	1 09	6 02	1 370036496	19 13	5 15 1 652059321	9 45252	7 07916
	•	B-4 5 Pre-EPA #3	21.8	4 62	3 46	1 42	0 98	3 73	1 33	5 15	1 652059321	15 37	3 8 1 254192968	-1 75956	5 3196
7		B-4.5 Pre-EPA #4	26 8	-0 86	2 6.	2 56	0 77	1 24	0 99	3.8	1 254192968	10 43	6 92 0 956033472	4 1943	4 13292
34	18 7/1/02.Pre EPA	B-C/13-17 5	29 9	-1 62	1 84	0 31	0 54	1 2	0.76	1 51	0 932308962	13 27	3.86 1 172006826	-5 13546 _:	4 76718
21	6 6/21/02 Pre EPA	.B-C/6-9	. 24 4	06	2 24	18	0 66	1 07	0 88	2 87	1 1	9 76	2 38 0 794040301	2 51658	3 35544
34			25 5	2 88	2 16	-0 35	0 61	3.46	. 0 86	3 11.	1 054371851	11 53	1 51 0 932308962	-3 31452	3 76464
14 ⁻ 15		B-D/2-6 Pre EPA#1 B-D/2-6 Pre EPA#2	33 2	1 64	2 61 2 5	1 76 5 64	0.75	2 57	09	4 33 6 91	1 25 1 152562363	12 55	6 91 1 152562363	1 4322	5.115
13			: 33	44	37	2 23	1 05	. 1 27 2 86	1 39-		1 742010333	17 59 11 77	5 09 1 742010333 6 64 1 06212052	9 0024	7 57 <u>02</u> 4 54212
15		:B-D/2-6 Pre EPA#4	34 1	1 1 8	2 22	3 37	0 65	3 27	0 84:	6 64	1 06212052	12 7	-0 42 0 968349111	-0 75702	4 07154
35	52 7/1/02 Pre EPA	C-D/13-17 5	28 2	5 99	2 84	2 2 1	0.8	0 95	1 03	3 16	1 30418557	29 95	65 5 3 808214805	-18.49584	17.96388
21			25 3	1 25	1 45	0.87	0.42	3 06	0.58	3 93	0 716100552	10 26	2 08 0 814002457	-2 06646	3 4782
	******		25 4	-1 01	17	1 55	0.49		0.65				and the second s		
22	and the second s		_					0 53		2 08	0 814002457	89 95	269 2 12 21856375	-165 0099	56 3673
34			28.4	-2.51	2 33	1 86	0 7	2	0 94.	3 86	1 172006826	11 4	3 09 0 9	1 207 14	3 84648
35	10021001 1 20 1 1 1 1 1 1 1 1 1 1 1 1 1		28.9	0 59	1 88	1 1	0 54	1 99	0 72.	3 09	. 09	11 99	1 6 0 998098192	0 36828:	4.2966
21			21.5	1 67	2 42	2 02	0.7	1 2	0 92	3 22	1 156027681	7 87	3 93 0 716100552	2 5575	2 9667
21	17 6/21/02 Pre EPA	.D-E/6-9	23 8	1 23	1.64	0.33	0 47	2 05	0 64	2 38	0 794040301	13 17	3 22 1 156027681	3 41682	4 95132
35	51 7/1/02:Pre EPA	D-E/9-13	31.4	0 18	2 1	1 35	0.61	0 25	0.79	16	0 998098192	14 32	3 16 1.30418557	12 25554.	5 81064
65	:		36 3	5 89	2 63	-0 79	0 72	1 56	1 02	0 77	1 248519123	18 15	5 86 1 852349859	-2 02554	8 02032
48		E-F/10-11 Pre EPA S1230		1 48	3 2	1 07	0 94	3 21	1 32	4 28	1 620493752	14 4	0 31 1 131591799	7 161	4 62396
66		E-F/1-2 25 S1364 E-G/10-12 S1283	34 3	0 39	2 32 1 83	8 0 98 U	0 66 0 53	0 09	0 88 0 72	0 71 2 35	0 894035793	17 43 13 78	7 07 1 564864211	-3 51912	6 8541 4 46028
48		:E-G/2-4 Pre EPA S1226	27 2	-0 23	2 65	2 02	0 79	3 4	1 07	5 42	1 330037593	12 65	2 6 1 160172401 4 08 1 052093152	-7 6725 -8 02032	4 23522
48		E-G/4-6 Pre EPA S1227	25 6	-3 92	2 07	1 03	0 62	3 05	0.85	4 08	1 052093152	16 38	2 11 1 370036496	2 72118	5 85156
48	32 7/11/02 Pre EPA	E-G/6-8 Pre EPA S1228	27 4	1 33	2 86	2 1	0 83	0 01	1 09	2 11	1 370036496	13 69	2 81 1 164001718	-1 1253	4 8081
48	83 7/11/02 Pre EPA	E-G/8-10 Pre EPA S1229	28 9	-0 55	2 35	1 02	0 7	1 79	0 93	2 81	1 164001718	15 35	4 28 1 620493752	3 02808	6 5472
53	39 7/17/02 Pre-EPA	G-I 5/2-4 S1269	31 2	-1 06	2 38	1 77	0 7	2 48	0 92	4 25	1 156027681	14 71	5 68 1 298075499	1 3299	5 54466
54	40 7/17/02 Pre-EPA	G-I 5/4-6 S1270	31 2	0 65	2 7 1	3 62	0 79	2 06	1 03	5 68	1 298075499	14 61	3 68 1 138112472	-1 26852	4 64442
54	41 7/17/02 Pre-EPA	G-I 5/6-8 S1271	35 5	-0 62	2 27	0 29	0 67	3 39	0 92	3 68	1 138112472	16 76	3 03 1 338095662	-6,91548	5 46282
54	42 7/17/02 ⁻ Pre-EPA	G-I 5/8-9 S1272	35 2	-3 38	2 67	1 35	0 79	1 68	1 08	3 03	1 338095662	15 44	0 64 1 218277472	-2 6598	4 82856

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									116 -17							
Complete I Sample ID	File of Nu Sample Date		i .		Weight	U-238 Activity	U-238 Uncertainty	Th-232 Activity	Th-232 Uncertainty	Ra-226 Activity	Ra-226 Uncertainty	Total Radium Activity	Total Radium Uncertainty			
561	7/22/02	Pre EPA	G-I/11-13 S1285	32 6	1 96	1 97	0 72	0 57	2 48	0 77	3 2	0 958018789	10 2	2 33 0 822009732	-3 53958	3 33498
560	7/22/02	Pre EPA	G-I/9-11 S1284	27 1	-3 75	2 18	0.69	0 68	1 91	0 94	2 6	1 160172401	11 32	3 2 0 958018789	4 01016	4 03062
636	7/31/02	Pre EPA	H-18 5 #1 S1346	30 8	4 01	2 18	1 96	0.61	0 13	0 78	2 09	0 990202	23 06	5 24 2 018167486	6 30168	8 65458
637 649			.H-18 5 #2 S1347 H-1/8-9 S1357	31 8 37 7	3 08 4 17	4 23 2 07	1 9 1 14	1 19 0 59	3 34 1 43	1 63 0 78	5 24 2 57	2 018167486 0 97800816	13 73 9 52	-0 28	-6 15846 -0 85932	4 6035 3 2736
650	8/1/02	Pre EPA	H-1/9-10 S1358	35 5	-0 42	1 6	1 21	0 47	0 57	0 62	1 78	0 778010283	19 28	-0.68 1 448067678	-1 04346	5 99478
758	8/26/02	Pre EPA	: !.5-J 5/10 5-11 5 S1432	33 1	3	2 14	1 7	0 62	1 62	0 81	3 32.	1 020049018	13 18	1.23 1 096220781	-1 57542	4 43982
759	8/26/02	Pre EPA	J 5-J 5/9 5-10 5 S1433	35	-0 77	2 17	-0 49	0 64	1 72	0 89	1 23	1 096220781	13 12	1 83 1 010198	-2 70072	4 05108
734	8/20/02	Pre EPA	1.5-K/10 5-12 S1416	30 4	-0 13	2 05	. 1 67	0.6	0 21	0.78	1 88	0 964073168	175 06	720 71 26 75603296	-360 42336.	127 75224
733	8/20/02	Pre EPA	1 5-K/9-10 S1415	33 6	1 1	2 13	1 27	0.62	-0 16	0.8	1 11	1 012126474	11 54	1 88 0 984073168	-0 26598	4 1943
856	9/18/02	Pre EPA	I-L/17 5-19 #1 S1498	32.1	-0 24	2	0 53	0 58	0 61	. 0 78	1 14	0 97200823	13 51	151 1130044247	-1 20714	4 76718
857	9/18/02	Pre EPA	I-L/17 5-19 #2 S1499	. 32 9	0 59	2 33	0 46	0 67	1 05	0 91	1 51	1 130044247	14 75	-0 01 1 062544117	5 87202.	4 52166
811	9/5/02	Pre EPA	L 5/5.75-6 5 \$1471	31	0 43	3 06	3 5	0 88	. 24	1 16	5 9	1 456021978	15 49	1.78 1.410141837	-6 28122	5 4219
826	9/11/02	Pre EPA	M-N 7-8 5 S1478	33 5	-1 23	1 88	0 78	0 55	1 31	0.74	2 09	0 922008677	9 62	2 4 0 818413099	8 40906	3 41682
827	9/11/02	Pre EPA	M-N 8 5-10 5 S1479	32 1	4 11	1 67	-0 7	0 47	3 1	0 67	2 4	0 818413099	12 9	2 48 1 114001795	10 06632:	4 86948



EPA

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								EPA	4							
	Complete File of N Sample Sample Date Group	Description		Weight	U-238 Activity	U-238 Uncertainty	Th-232 Activity	Th-232 Uncertainty	Ra-226 Activity	Ra-226 Uncertainty	Total Radium Activity	Total Radium Uncertainty				
98	6/11/02 EPA	A-B/2-6 EPA #5 S1059	25.3	2.73	2.53	1.74	0.74	2.75	0 96	4.49	1 212105606	17 73	-0.17	1.434503398	4.6035	5.9334
399	7/8/02 EPA	A.5-D.5/14-15.5 EPA#1	29 8	-3 08	1.88	0 92	0 58	1 82	0.79	2.74	0.980051019	10 92	2.41	1.014001972	2.88486	4.25568
400	7/8/02 EPA	A.5-D.5/14-15.5 EPA#2 A.5-D.5/14-15.5	30 1	1 41	2.08	1 6	0 61	0 81	0.81	2 41	1.014001972	10.2	3.05	0.854458893	2.98716	3 49866
401	7/8/02 EPA	EPA#3 A.5-D.5/14-15.5	30.5	1.46	1.71	-0 44	0.49	3 49	0 7	3.05	0.854458893	12 78	2.58	0.994032193	-0.77748	4 15338
402	7/8/02 EPA	EPA#4 A.5-D.5/14-15.5	31	-0.38	2.03	0 34	0.59	2.24	0 8	2 58	0 994032193	9 06	2.74	0 75	-3.35544	3 02808
403	7/8/02 EPA	EPA#5 A.5-D/15.5-17.5	29.4	-1.64	1.48	1 34	0.45	1.4	0.6	2.74	0.75	15.72	3.4	1.280039062	2.2506	5.38098
394	7/8/02 EPA	EPA#1 A.5-D/15,5-17.5	26.5	-0.18	2.65	1.6	0.78	2 39	1.06	3.99	1.31605471	11.02	4.2	0.928008621	1.8414	3.84648
395	7/8/02 EPA	EPA#2 A.5-D/15.5-17.5	27.9	0.9	1.88	1.86				. 4.2	0.928008621	13,1	. 4.77	1.142015762	11.94864	5.09454
396	7/8/02 EPA	EPA#3 A.5-D/15.5-17.5	28.1	5.84	2.49	2.46		-	0.91	4.77	1.142015762	14.16	4	1.214001647	9.5139	5,3196
397	7/8/02 EPA	EPA#4 A.5-D/15.5-17.5	26.5	4.65	2.6	1.51	0.73			4	1.214001647	9 06	4.99	0.814002457	2.37336	3.39636
398 409	7/8/02 EPA 7/8/02 EPA	EPA#5 A.5-E/13-14 EPA#1	26.3 _. 31.6	1.16	•	0.26		3.19			0.814002457 0.858020979	11.86. 11.87	2 74	0.980051019	-6 30168 2.29152	3 84648
410	7/8/02 EPA	A.5-E/13-14 EPA#2	32.2.	1.12	2.02	0.20	0.51	2.15			0.986002028	10.61	2.12	0.864002315	0.3069	4.13292 3.60096
411	7/8/02 EPA	A.5-E/13-14 EPA#3	31.7	0.15	1.76	1.03					0.864002315	10.99	2.34	0.888144132	4.03062	3.76464
412	7/8/02 EPA	A.5-E/13-14 EPA#4	30.7	1.97	1.84	0.29					0.888144132	11.82	1.54	0.962133047	2.00508	4.13292
413	7/8/02 EPA	A.5-E/13-14 EPA#5	31.7	0.98	2.02	1.32	0 59	0.22	0.76	1.54	0.962133047	9.72	5.68	0.892020179	8.7978	3.84648
666	8/7/02 EPA		27.2	-1.14	1.73	1.12	0.51	1 49	0.68	2 61	0.85	14.8	10.19	1 424359505	0.08184	6,30168
667	8/7/02 EPA	A-A.5/2.5-3.5 EPA #2	26.6	0.04	3.08	7.74	0 88	2 45	1 12	10 19	1.424359505	12 64	3 63	1.070046728	4 37844	4.54212
668	8/7/02 EPA	A-A,5/2.5-3,5 EPA #3 A-A,5/2.5-3,5	25.4	2.14	2.22	1 61	0.65	2.02	0.85	3.63	1.070046728	14 18	3.2	1.186001686	-4.62396	4.86948
669	8/7/02 EPA	EPA #4 A-A.5/2.5-3.5	25.8	-2.26	2.38	1.22	0.71	1 98	0 95	3.2	1.186001686	13.54	3.79	1.126143863	-2.9667	4.72626
670	8/7/02 EPA	EPA #5 A-B/2-6 EPA #1	25.4	-1.45	2 31	2.17	0.69	1.62	0.89	3 79	1.126143863	10.68	0.9	0.836002392	-7.01778	3.31452
94	6/11/02 EPA	S1055 A-B/2-6 EPA #2	25.8	1.58	1.88	2.24	0.56	3.25	0.73	5.49	0.920054346	11 99	4.97	1.008017857	4.31706	4.33752
95	6/11/02 EPA	S1056 A-B/2-6 EPA #3	26.9	2.11	2.12	1.8	0 6	3.17	0.81	4.97	1.008017857	10.68	6.13	1.086001842	5.17638	4 66488
96	6/11/02 EPA	S1057 A-B/2-6 EPA #4	28.3	2.53	2.28						1 086001842	12.17	5.37	1 056030303	-1.61634	4.33752
97	6/11/02 EPA	S1058 B.5-D/23.5-25	27.1	-0.79	2.12		0.64				1 056030303	13.95	4 49	1.212105606	5.58558	5.17638
920	10/1/02 EPA	EPA#1 S1546 B.5-D/23.5-25	31.9	0.08	1 59						0 786002545	10 03	1.28	0.78816242	6 4449	3 39636
921	10/1/02 EPA	EPA#2 S1547	33.6	3.15	1.66	-0 15	0 46	1.43	0.64	1 28	0.78816242	9.4	0 71	0.720069441	-0.1023	3.08946

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	Complete	File of N	utrani Samples														
Sample ID	Sample Date	Sample Group	Description		Weight		U-238 Uncertainty	Th-232 Activity	Th-232 Uncertainty	Ra-226 Activity	Ra-226 Uncertainty	Total Radium Activity	Total Radium Uncertainty				
922	10/1/02	2 EPA	B.5-D/23.5-25 EPA#3 S1548	33.9	-0.05	1 51	1 05	0 44	-0 34	0.57	0.71	0.720069441	9.22	1.98	0 818413099	6.6495	3.41682
923	•		B.5-D/23.5-25 EPA#4 S1549	323	3.25	1.67	0.3	0.47	1.68	0.67	1 98	0 818413099					
			B.5-D/23.5-25										11 17	1.86	0.922008677	-0.18414	3.76464
924	10/1/02	2 EPA	EPA#5 S1550 B-8.5 EPA #1	32.6	-0 09	1.84	0.4	0 55	1.46	0.74	1 86	0.922008677	15 81	1.43	1.214907404	-1.55496	4.78764
89	6/11/02	2 EPA	S1050 B-8.5 EPA #2	36.5	1 61	1.95	2.12	0.57	1 86	0 76	3 98	0.95	11 25	7.42	1.026157883	6.05616	4 5012
. 90	6/11/02	2 EPA	S1051 B-8.5 EPA #3	34.1	2 96	2.2	4.44	0.63	2.98	0.81	7 42	1.026157883	12.81	3.57	1.108016245	3.60096	4.7058
:91	6/11/02	2 EPA	S1052 B-8.5 EPA #4	34.4	1 76	2.3	1.14	0.66	2.43	0.89	3 57	1.108016245	11.33	4.01	0.994032193	6.83364	4.23522
92	6/11/02	EPA .	S1053	35.2	3.34	2.07	1.58	0.59	2.43	0.8	4.01	0.994032193	14.51	3.01	1.184060809	10.9461	5.3196 [:]
. 93	6/11/02	2 EPA	B-8.5 EPA #5 S1054	35.7	5.35	2.6	1.33	0.72	1.68	0.94	3 01	1.184060809	9.79	5.49	0.920054346	3.23268	3.84648
158	6/18/02	EPA	B-C/2-6 EPA #1 5 \$1079	27.7	0.51	1.86	2.79	0.54	2.41	0.71	5 2	0.892020179	14.43	4.53	1.280039062	11.19162	5.48328
159	6/18/02	EPA	B-C/2-6 EPA #2 S1080	26.8	5.47	2.68	1.42	0.76	3.11	1 03	4 53	1.280039062	12.24	5.27	1.084066419	8.92056	4.68534
160	6/18/02	2 EPA	B-C/2-6 EPA #3 S1081	28.5	4.36	2.29	2.58	0.66	2.69	0.86	5 27	1.084066419	10.22	4.7	0.85	13.03302	3.7 4 418 [:]
161	6/18/02	P FPA	B-C/2-6 EPA #4 S1082	27.5	6.37	1.83	1 57	0.51	3.13	0.68	4.7	0.85	13 34	5.99	1.208014901	11.84634	5.23776
162			B-C/2-6 EPA #5 S1083	27.6	5.79	2.56	1.83	0 72	4.16	0.97	5.99	1.208014901	14.54	21.29	1.663309953	4.41936	7.5702
			B-C/6-9 EPA#1					_						•			
257	6/25/02	••	S1123 B-C/6-9 EPA#2	31.3	-3.14	2.14	1.71	0.64	1.88	0.84	3.59	1.056030303	12.72	3.59	1.056030303	-6.42444	4.37844
258		EPA	S1124 B-C/6-9 EPA#3	31.8	1.65	2.09	1.75	0.6	2.08	0.79	3.83	0.992018145	11.46	3.83	0.992018145	3.3759	4.27614
259	6/25/02	2 EPA	S1125 B-C/6-9 EPA#4	. 32.7	2.84	1 67	-0 09	0 47	3.41	0.66	3.32	0.810246876	10.05	3.32	0.810246876	5.81064	3.41682
260	6/25/02	EPA	S1126 B-C/6-9 EPA#5	32.9	0.13	1.92	1.16	0.55	0.4	0.71	1.56	0.898109125	11.7	1.56	0.898109125	0.26598	3.92832
261	6/25/02	2 EPA	S1127	32.7	-1.97	2.1	2.27	0 61	1	0 79	3.27	0.998098192	12.43	3.27	0.998098192	-4.03062	4.2966
404	7/8/02	2 EPA	B-C/9-13 EPA#1	31.6	1 1	2.63	0 59	0 76	2 81	1.03	3 4	1.280039062	7.04	3.49	0.6	-4.25568	2 4552
405	7/8/02	2 EPA	B-C/9-13 EPA#2	31.5	-2.08	1.2	1 48	0 36	2.01	0.48	3 49	0.6	12 44	2.91	1.006031809	0.9207	4.23522
406	7/8/0	2 EPA	B-C/9-13 EPA#3	31.7	0 45	2.07	1.24	0 61	1.67	0.8	2 91	1.006031809	11.39.	2.42	0.934077085	3.04854	4.07154
407	7/8/0	2 EPA	B-C/9-13 EPA#4	31.6	1 49	1.99	1 77	0 57	0.65	0 74	2.42	0.934077085	11.94	3.26	1.144027972	-0 75702	4.62396
408	7/8/0	2 EPA	B-C/9-13 EPA#5 C-D/2-6 EPA #1	31.7	-0.37	2.26	1 38	0.68	1.88	0.92	3 26	1 144027972	10.34	1 42	0.858020979	3.08946	3.64188
163	6/18/0	2 EPA	S1084	26.6	2.16	3.7	15.41	1 05	5 88	1.29	21 29	1 663309953	15 71	36.72	1.833575742	0.45012	8.30676
: 164	6/18/0	2 EPA	C-D/2-6 EPA #2 S1085	28.4	0.22	4.06	25.28	1.16	11.44	1.42	36.72	1.833575742	14.77	22.92	1.721046193	0.7161	7.69296
165	6/18/0	2 EPA	C-D/2-6 EPA #3S1086	27.8	0.35	3.76	15	1 08	7.92	1.34	22 92	1 721046193	10.23	32.27	1.166619047	2.39382	5.23776
166	6/18/0	2 EPA	C-D/2-6 EPA #4 S1087	27.6	1 17	2.56	20 61	0 73	11.66	0.91	32.27	1.166619047	13 54	22 76	1 379057649	10 90518	6.28122

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	Complete File of N	utrani Samples						EFF	•							
Sample ID	Sample Sample Date Group			Weight		U-238 Uncertainty	Th-232 Activity	Th-232 Uncertainty	Ra-226 Activity	Ra-226 Uncertainty	Total Radium Activity	Total Radium Uncertainty				•
167	6/18/02 EPA	C-D/2-6 EPA #5 S1088	28.3	5.33	3.07	15.29	0 87	7 47	1.07	22.76	1.379057649	15.73	6 5 6	1 504150906	4.46029	6.5470
. 107	0/10/02 EPA	C-D/2-6 EPA#1	20.3	3.33	3.07	13.29	0.67	7 47	1.07	22.76	1.379037649	15.73	6.56	1 504160896	4.46028	6.5472
250	6/24/02 EPA	S1118 C-D/2-6 EPA#2	31.5	0 5	1.62	2 19	0 48	2.23	0 64	4.42	0.8	8 25	4.42	8 0	1 023	3.31452
251	6/24/02 EPA	S1119	31.5	3 4	1.9	1 46	0 53	1.7	0 7	3 16	0.878009112	11.01	3.16	0.878009112	6.9564	3.8874
252	2 6/24/02 EPA	C-D/2-6 EPA#3 S1120	31.5	1.85	2 21	2	0 64	0.84	0 81	2.84	1.032327467	12.34	2 84	1.032327467	3 7851	4.52166
253	8 6/24/02 EPA	C-D/2-6 EPA#4 S1121	30.1	2.95	2 31	2 06	0 66	1.36	0 88	3.42	1.1	12.13	3 42	1,1	6 0357	4.72626
254	6/24/02 EPA	C-D/2-6 EPA#5 S1122	30	0.51	1.71	2.58	0.5	1.21	0.64	3.79	0.81215762	9.75	3 79	0.81215762	1.04346	3,49866
	••	C-D/6-9 EPA#1														
245	6/24/02 EPA	S1113 C-D/6-9 EPA#2	28.7	-2.9	2.63	1 67	0 8	3,01	1.07	4.68	1.336001497	16.54	2 33	1.348072698	-1.04346	5,60604
246	6 6/24/02 EPA	S1114 C-D/6-9 EPA#3	28.6	-0.51	2.74	1.29	0 82	1.04	1.07	2 33	1.348072698	9.08	3.39	0.772010363	-2 08692	3.23268
247	6/24/02 EPA	S1115 C-D/6-9 EPA#4	28.5 ⁻	-1.02	1.58	1,1	0.46	2.29	0.62	3.39	0.772010363	12.46	2.73	1 0020978	-2.61888	4.17384
248	6/24/02 EPA	S1116	. 27	-1.28	2.04	0.74	0.59	1.99	0.81	2.73	1.0020978	14.43	13.58	1.54029218	-1.69818	6.91548
249	6/24/02 EPA	C-D/6-9 EPA#5 S1117 C-E/11-13	28 3	-0 83	3 38	12 39	0.99	1.19	1 18	13.58	1.54029218	11,1	3.71	0.914002188	-3.64188	3.80556
419	7/8/02 EPA	EPA#1	33.3	2.37	2.08	1.72	0.59	3.07	0.78	4 79	0.97800818	10.03	4.26	0.852760224	1.8414	3.84648
420	7/8/02 EPA	C-E/11-13 EPA#2	32.5	0 9	1.88	4.38	0.54	-0.12	0.66	4.26	0.852760224	14.05	5.92	1.246314567	-6 138	5.17638
421	7/8/02 EPA	C-E/11-13 EPA#3	. 33	-3:	2.53	3.46	0.77	2.46	0.98	5.92	1.246314567	12.22	3.9	0.990202	-1.78002	4.25568
422	7/8/02 EPA	C-E/11-13 EPA#4	32.8	-0.87	2.08	2.56	0.61	1.34	0.78	3 9	0.990202	10.79	5.24	0 962133047	0.38874	4.1943
423	7/8/02 EPA	C-E/11-13 EPA#5	32.1	0.19	2.05	3.42	0.59	1 82	0.76	5.24	0.962133047	13.16	0.74	1.074150827	0.36828	4.3989
414	7/8/02 EPA	C-E/9-11 EPA#1	30.8	4.3	1.88	2 25	0.54	3.43	0.71	5 68	0 892020179	13.21	5.76	1.202538981	3.6828	5.23776
415	7/8/02 EPA	C-E/9-11 EPA#2	30.3	1.8	2.56	3.91	0 75	1.85	0.94	5 76	1 202538981	12.53	4.17	1.126143863	-0.65472	4.74672
416	7/8/02 EPA	C-E/9-11 EPA#3	31.5	-0.32	2.32	3.11	0 69	1.06	0.89	4.17	1.126143863	12.17	. 4.44	1.048093507	12.03048	4.58304
417	7 7/8/02 EPA	C-E/9-11 EPA#4	29.7	5.88	2.24	2 37	0.64	2.07	0.83	4.44	1.048093507	14.12	6.28	1.362093976	-4.68534	5.64696
:418	3 7/8/02 EPA	C-E/9-11 EPA#5 D-E/2-6 EPA#1	30.9	-2 29	2.76	3.88	0.83	2.4	1 08	6.28	1 362093976	11.78	4.79	0 97800818	4.84902	4.25568
262	6/25/02 EPA	S1128 D-E/2-6 EPA#2	31.6	-1.78	1.86	1 05	0.55	2.66	0.73	3.71	0.914002188	12.88	2.77	1.06400188	-0.98208	4.48074
263	3 6/25/02 EPA	S1129 D-E/2-6 EPA#3	30.6	-0.48	2 19	0 83	0.64	1 94	0.85	2.77	1.06400188	12.72	2.76	1.166061748	12.33738	5.09454
26	4 6/25/02 EPA	S1130 D-E/2-6 EPA#4	30,6	6.03	2 49	0 76	0 69	2	0.94	2.76	1 166061748	12.87	2 98	1 144027972	6.9564	4.86948
. 26	5 6/25/02 EPA	S1131 D-E/2-6 EPA#5	31.7	3.4	2.38	0 97	0 68	2.01	0.92	2 98	1.144027972	10.03	6.26	0 94810337	2 23014	4.07154
26	6 6/25/02 EPA	S1132 D-E/6-9 EPA#1	31 2	1 09	1 99	3 47	0.58	2 79	0 75	6 26	0 94810337	15 66	20 88	1 799138683	0 26598	8 02032
24	0 6/24/02 EPA	S1108	26.9	-1.62	1 87	1.17	0.56	2.26	0 77	3 43	0.952102936	11 4	3 02	0 95	1.10484	4 11246

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	Complete File of N	utrani Samples						Lr A	•							
Sample ID	Sample Sample Date Group			Weight	U-238 Activity	U-238 Uncertainty	Th-232 Activity	Th-232 Uncertainty	Ra-226 Activity	Ra-226 Uncertainty	Total Radium Activity	Total Radium Uncertainty				
241	6/24/02 EPA	D-E/6-9 EPA#2 S1109 D-E/6-9 EPA#3	27.6	0.54	2.01	2 18	0.57	0 84	0.76	3 02	0 95	9.49	2.96	0 770064932	-2 16876	3.23268
242	6/24/02 EPA	S1110 D-E/6-9 EPA#4	25.6	-1 06	1 58	1 86	0 47	1 1	0 61	2 96	0 770064932	11 81	3 84	0.994032193	-11.27346	3.86694
243	6/24/02 EPA	S1111 D-E/6-9 EPA#5	26.3	-5.51	1.89	1.33	0 59	2.51	0.8	3.84	0.994032193	11.92	1.92	0.956033472	7 30422	4.25568
244	6/24/02 EPA	S1112	26.5	3.57	2.08	1.85	0 58	0.07	0.76	1.92	0.956033472	14.8	4.68	1.336001497	-5.9334	5.38098
675	8/7/02 EPA	E-F/1-2.5 EPA #1	36	0.3	2.22	-0.04	0 65	0.22	0.87	0 18	1.086001842	18.14.	1.38	1.406022759	-5.25822	5.8311
676	8/7/02 EPA	E-F/1-2.5 EPA #2	34.9	-2.57	2.85	0.93	0 85	0.45	1.12	1.38	1 406022759	8.48	. 1.22	0.702139587	6.62904	2.9667
677	8/7/02 EPA	E-F/1-2.5 EPA #3	34.2	3 24	1.45	-0 35	0.41	1.57	0.57	1 22	0.702139587	17.3	0.03	1.308013761	7.38606	5.68788
678	8/7/02 EPA	E-F/1-2.5 EPA #4	34.5	3.61	2.78	. 0.31	0.78	-0.28	1.05	0 03	1.308013761	12.52	2.25	1.24036285	0.9207	4.8081
679	8/7/02 EPA	E-F/1-2.5 EPA #5 E-F/13.5-15	34.7	0.45	2.35	0.18	0 72	2.07	1.01	2.25	1.24036285	15.05	. 0.33	1.15	-2 78256	4.9104
682		EPA#1 E-F/13.5-15	34.7	2.79.	1.59		0.45	2.3	0.61	2.99	0.758023746	8.56	2.08	0.692026011	-3.4782	2.92578
683		EPA#2 E-F/13.5-15	32.5		1.43	1.51	0.42	0.57	0 55.	2 08	0.692026011	10.23	2.42	0 872009174	1 65726	3 70326
684	8/8/02 EPA	EPA#3 E-F/13.5-15	32,4	0.81	1.81	1.42	0.52	1	0.7	2 42	0.872009174	11.72	2.98	0.97800818	0.73656	4.23522
685	8/8/02 EPA	EPA#4 E-F/13 5-15 EPA#5	33.2	0 36	2,07	1.77	0.59	1 21	0.78	2.98	0 97800818		3.36	1.052093152	1.45266	4.41936
686	8/8/02 EPA	E-G/10-12 EPA#1	32 _. 5 34.3	2.34	2.16	1.2	0.62 0.75	2.16 1.36	0.85	3.36	1.052093152	11.44	0.48	0.952102936	9.39114	4,17384
582		E-G/10-12 EPA#2	34.4	-2 16	1.95	2.27	0.59	2.04	0.97 0.77	3.63 4.67	1.22613213 0.970051545	11.04	4.67 4.08	0.970051545	-4.41936	3.9897
584		E-G/10-12 EPA#3	33.7	-0.63	2 2	1.96	0.59	2.04	0.85	4.08	1.06400188	12.75 13.26		1.06400188	-1.28898	4.68534
585		E-G/10-12 EPA#4	31.9		2.29	1.59	0.67	2 69	0.03	4.28	1 130044247		4.28	1.078007421	-1.023 8 06124	4.62396
586		E-G/10-12 EPA#5	33.7	3,94	2.26	1 57	0.65	2 95	0 86	4.52	1.078007421	13 68	0 52	1.224132346	-3 04854	4.78764
497	7/12/02 EPA	E-G/2-4 EPA #1 S1236	28.5		2.02	1.94	0 59	1 24	0 78	3.18	0.97800818		3.88	1 058017013	11.37576	4.68534
498		E-G/2-4 EPA #2 S1237	23.8		2.29	1.53	0 63	2.35	0.85	3,88	1 058017013		3.23	1.198540779	4 48074	4,95132
499	7/12/02 EPA	E-G/2-4 EPA #3 S1238	30.1	2.19	2.42	0.01	0 69	3.22	0.98	3 23	1 198540779		2 74	1.220040983	11 60082	5.40144
500	7/12/02 EPA	E-G/2-4 EPA #4 S1239	28.3	5.67	2 64	1.39	0.74	1.35	0.97	2.74	1 220040983	10.2	2.81	0.846286004	6 01524	3.53958
501	7/12/02 EPA	E-G/2-4 EPA #5 S1240	28.6	2.94	1 73	-0 25	0 49	3 06	0.69	2 81	0 846286004	11 05	1 38	0 884081444	0.26598	3.6828
492	7/12/02 EPA	E-G/4-6 EPA #1 S1231	32	3.04	2.47	1.83	0.7	2 53	0.95	4.36	1 180042372	10.17	5,54	0.890224691	0.7161	3.84648
493	7/12/02 EPA	E-G/4-6 EPA #2 S1232	32.1	0.35	1 88	3.16	0.55	2.38	0.7	5.54	0 890224691	9 15	4.26	0.826196103	4.97178	3 64188
. 494	7/12/02 EPA	E-G/4-6 EPA #3 \$1233	31.3	2.43	1 78	3 38	0.51	0 88	0.65	4 26	0 826196103	12.41	6.9	1.212105606	11.90772	5.36052

Nutrani Gamma Spec Report- 341 East Ohio Street Site EPA

			lutrani Samples														
Sample ID	Sample Date	Sample Group	Description		Weight		U-238 Uncertainty	Th-232 Activity	Th-232 Uncertainty	Ra-226 Activity	Ra-226 Uncertainty	Total Radium Activity	Total Radium Uncertainty				
405	7/40/00	F04	E-G/4-6 EPA #4	20.4	5 82	2.62	4.24	0 74	2.59	0.00	6.0	4 242405606	10.05	2.42	0.00.4025702	. 70740	0.0000
495	7/12/02	EPA	S1234 E-G/4-6 EPA #5	29.1	5.62	2.62	4 31	0 74	2.39	0 96	6 9	1.212105606	10 95	3.42	0.894035793	-4 76718	3.60096
496	7/12/02	EPA	S1235	29.5	-2 33	1.76	0.75	0 53	2 67	0 72	3 42	0 894035793	10.93	3 18	0 97800818	2 37336	4.13292
			E-G/6-8 EPA #1														
502	7/12/02	EPA	S1241	32.8	0.13	1.8	0.79	0.54	0.59	0.7	1.38	0.884081444	8.61	2.49	0.72201108	8.184	3.04854
503.	7/12/02	FPA	E-G/6-8 EPA #2 S1242	32.9	4	1.49	0.2	0 43	2 29	0 58	2 49	0 72201108	11.22	2.9	0.966074531	-0 75702	3.9897
	. 1,12,02		E-G/6-8 EPA #3	02.0	·		5.2			0.00	2 /3	0.22000		4.5	0.50001 1001	0 10102	9.3037
. 504	7/12/02	EPA	S1243	30.4	-0.37	1.95	1.1	0.57	1.8	0.78	2.9	0.966074531	14.3	2 32	1.216059209	-1.37082	5.03316
505	7/12/02	EDΛ	E-G/6-8 EPA #4 S1244	28.4	-0.67	2.46	0.56	0 72	1.76	0.98	2.32	1.216059209	11.11	1.79	0.916078599	4.99224	3.8874
505	17 12/02		E-G/6-8 EPA #5	20.4	-0.07	, 2.40	0.30	0 12	1.70	0.50	2.52	1.210033203	11.11	1.19	0.910076399	4.33224	3.0074
506	7/12/02	EPA .	S1245	30.3	2.44	1.9	0.62	0.54	1.17	0.74	1 79	0.916078599	11.68	3.9	1.008017857	4.84902	4.21476
507	7/12/02	EΘΛ	E-G/8-10 EPA #1 S1246	30.2	2.37	2.06	0.99	0.6	2.91	0.81	3.9	1.008017857	12.22	1.32	1 086001842	6.87456	4.0004
. 507	1/12/02	L .	E-G/8-10 EPA #2	30.2	2.31	2.00	0.55	00	2.51	0.61	3.9	1.000017837	13.32	. 1.32	1 080001842	0.07430	4.8081
508	7/12/02	EPA	S1247	27.5	3.36	2.35	1	0.65	0.32	0.87	1.32	1.086001842	11.23	3 18	1.032279032	-0.24552	4.092
: 509	7/12/02	EDA	E-G/8-10 EPA #3 S1248	29.6	÷0.12	2	0.49	0.6	2.69	0.84	3.18	1.032279032	10.82	2.63	0.958018789	-1.88232	3.84648
309	11,12102	: Enn.	E-G/8-10 EPA #4	25.0	÷0.,12	2	. 0.49	0.0	2.03	0.64	3.10	1.03227.9032	10.82	. 2.03	0.930010769	-1.00232	3.04040
510	7/12/02	EPA	S1249	26.7	-0.92	1.88	0.86	0.57	1.77	0.77	2.63	0.958018789	11.32	2 08	0 908019824	1.28898	3.84648
511	7/12/02	EDA	E-G/8-10 EPA #5 S1250	27	0.63	1.88	0.88	0.54	1.2	0.73	2.08	0.908019824	37.67	185.63	5.028807016	26.60204	22.83336
	7/12/02	. S	G-H.5/20-22.5	21	0.03	1.00	0.00	0.54	1.2	0.73	2.00	0.900019624	31.01	100.03	3.020007010	-36.60294	22.03330
904	9/30/02	EPA	EPA#1 S1532	34.9	0.71	2.04	-0.87	0.59	2.19	0.83	1.32	1.018331969	9.47	1.48	0.706045324	-8.98194	2.82348
905	9/30/02	FΡΔ	G-H.5/20-22.5 EPA#2 S1533	34.8	-4.39	1.38	0.55	0.43	0.93	0.56	1.48	0.706045324	9.8	2.03	0.816088231	-4.01016	3.31452
:	3/30/02	F 0	G-H.5/20-22.5	34.0	4.55	1,50	. 0.55	0.43	0.33	0.50	1,40	0.700043324	5.0	2.03	0.810086231	-4.01010	3,31432
906	9/30/02	EPA	EPA#3 S1534	33.8	-1 96	1.62	0.54	0.48	1.49	0 66	2.03	0.816088231	10.11	1.35	0.830060239	1 20714	3.43728
907	9/30/02	FPA	G-H.5/20-22.5 EPA#4 S1535	35.4°	0.59	1.68	0.21	0 49	1.14	0 67	1 35	0.830060239	12.34·	1 91	1.040432602	-0 57288	4.25568
·			G-H.5/20-22.5		0.00		0.21	0 10	,,,,	007	1 55	0.000000203	12.54	131	1.040402002	-0 37200	4.23300
908	9/30/02	EPA	EPA#5 S1536	34.6	-0.28	2.08	0.17	0.6	1.74	0.85	1 91	1.040432602	12.39	2 23	1.074150827	1.1253	4.3989
909	9/30/02	FΡΔ	G-H.5/22.5-24.5 EPA#1 S1537	34.1	0.55	2.15	0.57	0.63	1.66	0.87	2.23	1.074150827	13.79	1.76	1.118302285	6.40398	4.7058·
	5,00,02	. = :. * `	G-H.5/22.5-24.5	34.1	0.00	2.10	0.07	0.00	1.55	0.07	2.23	1.01 1100021	13.75	1.70	1.110302203	0.40000	4.7050
910	9/30/02	EPA	EPA#2 \$1538	33.9	3.13	2.3	-0.2	0.65	1.96	0.91	1.76	1.118302285	12.81	2.22	1.080046295	-1 71864	4.37844
911	9/30/02	FPA	G-H.5/22,5-24.5 EPA#3 S1539	33.4	-0.84	2.14	0.38	0.64	1.84	0.87	2.22	1.080046295	13.26	1.67	1.17889779	7.34514	4.88994
. •	0,00,-2		G-H.5/22.5-24.5		0.01		0.00	0.01		0.01		1.5555 15255	10.20			7.01011	:
912	9/30/02	EPA	EPA#4 S1540	26.9	3.59	2.39	-1	0.67	2.67	0.97	1.67	1 17889779	12.13	1.3	1.010198	7 48836	4.2966
913	9/30/02	FPA	G-H.5/22.5-24.5 EPA#5 S1541	33.4	3.66	2 1	0.32	0 59	0.98	0.82	1.3	1.010198	16.87	1.69	1.286001555	-6 91548	5.17638
577	7/22/02		G-I.5/2-4 EPA#1	29.3	3.55	2.63	2.86	0 74	0.23	–	3 09	1.188486432	12.37	2.58	0.998098192	7 01778	4.52166
578	7/22/02		G-I.5/2-4 EPA#2	30.4	3.43	2.21	2.01	0.61	0.57	0.79	2.58	0.998098192	11.93	3.05	1.058017013	2 29152	4.46028
579	7/22/02		G-1.5/2-4 EPA#3	29.7	1.12	2.18	1.17	0 63	1.88	0.85	3 05	1.058017013	7.62	3.28	0.656048779	1.98462	2.82348
580	7/22/02		G-1.5/2-4 EPA#4	31.2	0.97	1.38	2.4	0.4	0.88		3.28	0.656048779	13.94	3.96	1.220040983	10 10724	5.38098
581	7/22/02		G-1.5/2-4 EPA#5	31.3	4.94	2.63	2 03		1.93		3.96	1 220040983	14.26	3.63	1 22613213	4 78764	5.4219
591	7/23/02		G-I.5/4-6 EPA#1	33.2	-0.29	2.43			2 51	0.57	4 36	1.186001686	12.33	4 07	1 06400188	5 54466	4.58304
592			G-I.5/4-6 EPA#2	32.7	2 71	2.24	2 25		1 82		4 07	1 06400188	14 03	5.71	1 322006051	1 78002	5 6265
593			G-1.5/4-6 EPA#3	32.6		2.75		0 79	2 6		5 71	1.322006051	13 82	4 49	1.172006826	5 0127	5.0127
594			G-I.5/4-6 EPA#4	31.9	2.45	2.45			2 65		4.49	1 172006826	11.38	4.51	1.014001972	0.4092	4.33752
595	7/23/02		G-I.5/4-6 EPA#5	32.2	0.2	2.43		0.7	2 03		4.49	1,014001972	9.33	2.32	0.764002618	-0.1023	3.25314
595 596			G-1 5/6-8 EPA#1	35.5		1.59			0 63		2.32		9.33 11.01	5 48	1 0020978	1.2276	4.11246
390	1123102		5.000 El A#1	33.3	-0.03	1.55	, 69	0 46	0 03	10,0	2 32	0 /04002016	1101	J 40	1 0020310	1.2210	7.11240

Nutranl Gamma Spec Report- 341 East Ohio Street Site EPA

								EPA	١							
	Complete File of N															
Sample	Sample Sample	e Description	'	Weight	U-238	U-238	Th-232	Th-232	Ra-226	Ra-226	Total Radium	Total Radium				
ID	Date Group				Activity	Uncertainty	Activity	Uncertainty	Activity	Uncertainty	Activity	Uncertainty				
597	7/23/02 EPA	G-I.5/6-8 EPA#2	35.6	0.6	2.01	1.57	0 59	3 91	0.81	5 48	1 0020978	10 3	3.11	0.9	1 14576	3.72372
598	7/23/02 EPA	G-I.5/6-8 EPA#3	35.7	0.56	1 82	17	0.54	1.41	0 72	3 11	0 9	13.91	1.47	1.078007421	7 54974	4.78764
599	7/23/02 EPA	G-15/6-8 EPA#4	34.9	3.69	2 34	0.61	0 65	0.86	0.86	1 47	1 078007421	13 78	2.73	1.172006826	0.45012	4.88994
600		G-I 5/6-8 EPA#5	37	0.22	2 39	1.05	0.7	1 68	0.94	2 73	1 172006826	16 14	3.39	1 636001222	2.4552	6.81318
562	:	G-I.5/8-9 EPA#1	30.3	-1.73	1.63	0.86	0.49	1 47	0.66	2 33	0 822009732	11.3	2.55	0.964002075	0.94116	
563		G-1.5/8-9 EPA#2	32	0 46	2 01	1.5	0.43	1 05	0.00	2 55	and the second second					4.11246:
564	7/22/02 EPA	G-1.5/8-9 EPA#2	31,1		1.65						0 964002075	9.75	2.22	0.808022277	-2.046	3 3759
				-1		1 32	0.48	0.9	0 65	2.22	0.808022277	10.34	2.9	0.85	-2.82348	3.51912
565		G-I.5/8-9 EPA#4	31.3	-1.38	1.72	1.2	0 51	1.7	0.68	2.9	0.85	11.52	2.54	0 958018789	-2.92578	4.03062
566	7/22/02 EPA	G-I.5/8-9 EPA#5	30,1	-1.43	1.97	1.53	0 57	1.01	0.77	2 54	0.958018789	10.94	3.7	0.954253635	0.5115	4.13292
572	7/22/02 EPA	G-I/11-13 EPA#1	33	-1.17	2.14	0.87	0 64	2.17	0.85	3.04	1.06400188	13.98	2.24	1.092016483	-0.83886	4.5012
											·				***	
573	7/22/02 EPA	G-I/11-13 EPA#2	33.6	-0.41	2.2	0.64	0.66	1.6	0.87	2.24	1.092016483	12.99	3	1.022007828	-5.58558	4.13292
													• •			
574	7/22/02 EPA	G-I/11-13 EPA#3	33.2	-2.73°	2.02	0.33	0.61	2.67	0.82	3	1.022007828	10 13	3.19	0.820060973	-12.03048	3.25314
			7						9.02	•	1.022001020	10 10	5.15	0.020000310	-12.030-0	5.25514
575	7/22/02 EPA	G-I/11-13 EPA#4	34.9	-5.88	1 59	1.75	0.5	1 44	0.65	3 19	0.820060973	15.1	2.05	1 100107730	0.25022	E 07800:
3/3	1122102 LFA	. 0-1/11-13 EF A#4	34.3	-5,00	1 35	. 1.75	0.5	1 44	. 0.05	3 19	0.820080973	15.1	2.05	1.188107739	9.35022	5.27868
	7/00/00 EDA	C V44 43 EDA#E	32.8 [:]	4.53	2.50	0.05										
576	7/22/02 EPA	G-I/11-13 EPA#5		4.57	2.58	0.85	0.7	1.2	0.96	2 05	1.188107739	13.05	3.09	1.188486432	7.2633	5.38098
567	7/22/02 EPA	G-I/9-11 EPA#1	29.4	0.25	2.02	2.84	0 59	0.86	0 75	3.7	0.954253635	12.18	4.12	1.038123307	0.02046	4.31706
568	7/22/02 EPA	G-I/9-11 EPA#2	29.6	0.01	2.11	1.72	0.61	2.4	0.84	4.12	1.038123307	10.88	3,59	1.042017274	7.4679	4.5012
569	7/22/02 EPA	. G-I/9-11 EPA#3	29.9	3.65	2.2	2.02	0.63	1.57	0.83	3.59	1.042017274	9.99	4 52	0.908019824	2 80302	3.7851
570	7/22/02 EPA	G-I/9-11 EPA#4	31.5	1.37	1.85	1.52	0.54	3	0.73	4 52	0.908019824	10.41	3.76	0.834086326	-3.7851	3.49866
571	7/22/02 EPA	G-I/9-11 EPA#5	30.3.	-1.85	1.71	1.71	0.51	2.05	0.66	3.76	0.834086326	12.69	3.04	1.06400188	-2.39382	4.37844
		H-19 EPA#1	***						•		•					
644	8/1/02 EPA	S1352	24.5	3.64	2.5	0.83	0.69	1.2	0.95	2.03	1.174137982	10.52	3.17	0.934077085	-1.06392	4.03062
	. 7 7 7 - 7 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	H-19 EPA#2		0.01	2.0	. 0.00	,0.00		0.50	2.00	1.114101302	. 10,52	3.17	0.334077003	-1.00552	4.03002
645	8/1/02 EPA	S1353	31.2	-0.52	1.97	2.45	0.57	0.72	0.74	3 17	0 934077085	11 3	3.74	1.010100	E 66740	4 22522
043		H-19 EPA#3	31.2	-0.52	1.31	2.40	0.57	0.12	0.74	3 17	0 334011003	113	3.14	1.010198	5.66742	4.23522
646	8/1/02 EPA	S1354	30.6	2 77	2.07	0.98	0.50	2.76	0.00	2.74	4.040400	44.04	0.00	0.000040445	0.0007	
040	0/1/02 EPA		30.0	2.77	2.07	0.96	0 59	2.76	0 82	3 74	1.010198	11 04	3.36	0.992018145	-3.9897	3.9897
		H-19 EPA#4														:
647	8/1/02 EPA	S1355	33.3	-1.95	1 95	1.96	0.6	1 4	0.79	3.36	0 992018145	10.8	2 55	0.876184912	-3.13038	3.70326
		H-19 EPA#5														
648		S1356	31.7	-1.53	1.81	1.83	0.54	0.72	0.69	2.55	0.876184912	11.43	2.57	0.97800818	8.53182	4 23522
687	8/8/02 EPA	H-I/8-10 EPA#1	34.6	4.59	2.04	0.07	0 56	0.41	0.77	0.48	0.952102936	11.69	0.67	0 930053762	4.74672	3.90786
688	8/8/02 EPA	H-I/8-10 EPA#2	33.7	2.32	1.91	0.17	0.55	0.5	0.75	0.67	0.930053762	10.46	1.39	0.860232527	5.66742	3.53958
689	8/8/02 EPA	H-I/8-10 EPA#3	34.2	2.77	1.73	-0.21	0.5	16	0.7	1.39	0.860232527	9.72	0.96	0.75	1.7391	3 1713
690	8/8/02 EPA	H-I/8-10 EPA#4	34.1	0.85	1.55	0.19	0.45	0.77	0.6	0.96	0.75	11.23	0.82	0.880056816	0.69564	3.70326
691	8/8/02 EPA	H-I/8-10 EPA#5	32.1	0.34	1.81	0.03	0.52	0.79	0.71	0.82	0.880056816	15 53	1.29	1.238103388	-1.90278	5.0127
		I.5-K/9.5-11		0.01	1.01	0.00	0.02	0,3	0.11	0.02	0.0000000010	10 33	1.25	1.230103300	-1.50270	3.0127
763	8/26/02 EPA	EPA#1 S1437	36.4	4.52	1.39	-0.5	0.38	0.96	0.51	0.46	0.636003145	12.51	2.04	4.05	-1.30944	4 24 700:
	0/20/02 LFA		30.4	4.52	1.39	-0.5	0.30	0.96	0.51	0.46	0.636003145	12.51	2.04	1.05	-1.30944	4.31706
704	0/05/00 504	I.5-K/9.5-11	27.5			• •										
764	8/26/02 EPA	EPA#2 S1438	37.5	-0.64	2.11	06	0.63	1 44	0.84	2.04	1.05	13.59	2 24	1.118302285	-2.7621	4.54212
		I.5-K/9.5-11														
765	8/26/02 EPA	EPA#3 S1439	37.7	-1.35	2.22	0.11	0 65	2 13	0 91	2 24	1 118302285	9 64	2.02	8.0	-2.57796	3.35544
		I.5-K/9.5-11														
766	8/26/02 EPA	EPA#4 S1440	36.4	-1.26	1.64	0.91	0 48	1 11	0.64	2 02	0.8	12 75	1.53	1.030048543	3 84648	4 3989
		I.5-K/9.5-11														
767	8/26/02 EPA	EPA#5 S1441	37.2	1.88	2.15	0.16	0.61	1 37	0.83	1.53	1.030048543	14.91	-0 34	1.25	7.01778	5.40144
	. :=	I-J.5/17 5-19					2.01	. 5,	0.50				5 - 1	1.20		
870	9/19/02 EPA	EPA#1 S1510	35,1	1 19	1 65	-0.11	0 47	0.33	0 64	0 22	0 794040301	12 65	1 46	1 040432602	4 46028	4.35798
. 079	5/15/52 2: //	I-J.5/17 5-19	55.1	1 13	1 00	-0.11	U 41	0.55	0 04	0 2 2	0 134040301	12 0.3	1 -0	. 0-0-32002	0020	7.00130
871	9/19/02 EPA	EPA#2 S1511	34.1	2.10	2 42	0.1	0.6	1.50	0.05	1.40	1.040433603	11.00	1.2	0.994032193	2 02000	4.07454:
0/.1	3113104 LFA	I-J.5/17.5-19	J4.1	2.18	2.13	-0.1	0.6	1 56	0 85	1.46	1.040432602	11.92	1.2	0.994032193	-3 02808	4.07154
0.70	0/40/02 EDA		22.4		4.00		0.55			. =		40.55	0.45			
8/2	9/19/02 EPA	EPA#3 S1512	32.1	-1.48	1.99	0.48	0 59	0.72	0 8	1.2	0.994032193	12 55	2 15	1 036001931	-5 60604	4.17384

Nutrani Gamma Spec Report- 341 East Ohio Street Site EPA

									EPA	4							
Sample ID	Complete Sample Date		utrani Samples Description		Weight	U-238 Activity	U-238 Uncertainty	Th-232 Activity	Th-232 Uncertainty	Ra-226 Activity	Ra-226 Uncertainty	Total Radium Activity	Total Radium Uncertainty				
873	9/19/02	EPA	I-J.5/17.5-19 EPA#4 \$1513	35	-2.74	2.04	1.04	0 62	1.11	0.83	2.15	1,036001931	9.75	0.71	0.766093989	5.7288	3.29406
874	9/19/02	EPA	I-J.5/17.5-19 EPA#5 S1514 I-J.5/9-12 EPA#1	34.2	2 8	1 61	-0 36	0.45	1 07	0.62	0.71	0 766093989	10 74	0.36	0 836002392	-0 34782	3.60096
741	8/2,1/02	EPA	S1421 I-J.5/9-12 EPA#2	33.8	-1.93	2.31	1.42	0 68	0.54	0.9	1 96	1.128007092	8.93	3.88	0 7823682	8 92056	3.31452
742	8/21/02	EPA	S1422 I-J 5/9-12 EPA#3	34	4 36	1.62	-0.12	0 45	4	0.64	3 88	0.7823682	12 18	1.93	1.014001972	-1 92324	4.13292
743	8/21/02	EPA	S1423 I-J 5/9-12 EPA#4	33,3	-0.94	2.02	0.29	0 61	1.64	0.81	1 93	1.014001972	12.82	3.14	1.116064514	-7.54974	4.3989
744	8/21/02	EPA	S1424 I-J.5/9-12 EPA#5	34	-3.69	2.15	0.95	0.66	2.19	0.9	3.14	1.116064514	10.56	2.33	0.880056816	0 45012	3.64188
745	8/21/02	EPA	\$1425 J.5-L/17.5-19	33.5	0.22	1.78	0.55	0 52	1 78	0 71	2.33	0 880056816	7.58	0.41	0.564003546	0 67518	2.43474
875			EPA#1 S1515 J.5-L/17.5-19	34	-0.17	1.76		0.5			0.36	0.836002392	11.82	3 1	1.058017013	3.9897	4 33752
876			EPA#2 S1516 J.5-L/17.5-19	33.1	1.95	2.12		0.63			3.1	1.058017013	11.46	2.17	0.914002188	-1.3299	3.8874
·877			EPA#3 S1517 J.5-L/17.5-19	34	-0.65	1.9		0.55			2.17	0.914002188	14.56	2.77	1.248078523	-4.17384	5.0127
878			EPA#4 S1518 J.5-L/17.5-19	32	-2.04	2.45	1.55	0.76	1.22		2.77	1 248078523	16.78	2.69	1.396173342	-0.98208	5.79018
879			EPA#5 S1519	34	-0.48	2.83	-0.23	0.82	2.92		2.69	1.396173342	19.1	0.07	1.600781059	0 87978	6.46536
. 860	9/19/02	EPA	K-18,5 SPOT	35.8	-7.95	3.29	5.54	1.02	3.18	1.31	8.72	1.660271062	17.59	7.09	1.572672884	12.19416	7.161
861	9/19/02	EPA	K-18.5 SPOT2	35.8	5.96	3.5	5.06	0.98	2.03	1.23	7.09	1 572672884	23.75	4.43	1.986579976	1.41174	8.71596
862	9/19/02	EPA	K-18.5 SPOT3 L.5-N/7-9 EPA#1	36.4	0.69	4.26	3.99	1 23	0 44	1.56	4.43	1.986579976	12.57	1.33	0.960208311	1.2276	4.05108
829			S1481 L.5-N/7-9 EPA#2	31.8	2.77	2.18	•	0.63	0.67	0.84	0.96	1.05	12 06	1.58	0.958018789	-8 184	3.72372
830	i		S1482 L.5-N/7-9 EPA#3	32.8	-4	1.82		0 57	1.59		1.58	0 958018789	10.4	. 1.48	0.852115016	-2 43474	3.51912
831			S1483 L.5-N/7-9 EPA#4	34.1	-1.19°	1.72	0.16	0.5	1.32		1.48	0.852115016	11.49	1.26	0.914002188	-2.98716	3.70326
832			S1484 L.5-N/7-9 EPA#5 S1485	35 34.6	-1.46	1,81	0.65	0 55		0.73	1.26 1.57	0 914002188	11.38	1 57	1.010198	3.13038	4.092
833			L.5-N/9-10.5 EPA#1 S1486	35.8	1.53 -0.19	1.63	0.02	0.59	1.55 0.24		0 43	1.010198 0.794040301	10.27 10.43	0.43 1.09	0.794040301 0.908019824	-0 3887 <u>4</u> 1.30944	3.33498
835			L.5-N/9-10.5 EPA#2 S1487	35.3	0.64	1.85	0.19	0.47	0.24		1.09	0.794040301	11.94	2.04	1.016070864	4,3989	3.78 <u>5</u> 1 4.21476
836		•	L.5-N/9-10.5 EPA#3 S1488	36.1	2.15	2.06	·	0.54				1 016070864	6 33	2.04	0.530094331	-4.97178	2.08692
837			L.5-N/9-10.5 EPA#4 S1489	35.2	-2 43	1.02		0.0	2.32			0 530094331	12 04	1.69	0 938136451	-3.49866	3.86694
838		•	L.5-N/9-10.5 EPA#5 S1490	35.7	-1 71	1.89		0 55				0 938136451	17 24	0 11	1.312097557	-0.77748	5.70834
797			L-L.75/5.75-6.5 EPA#1 S1457	24.4	2.07	2.32		0.66				1 092016483	13.7	3.74	1.142015762	2 6598	4.9104
798		EPA	L-L.75/5.75-6.5 EPA#2 S1458	27.8	1 3	2.4		0 69				1 142015762	10 74	4 34	0.958018789	3 15084	4.03062
799	9/5/02	EPA	L-L.75/5.75-6.5 EPA#3 S1459	28.1	1 54	1.97	1.75	0 57	2 59	0 77	4 34	0 958018789	10.88	4.42	0.95	-2 06646	3.96924 ⁻
800	9/5/02	EPA	L-L.75/5.75-6.5 EPA#4 S1460	27	-1 01	1 94	2 21	0 57	2 21	0 76	4 42	0.95	12.11	3.84	1 06212052	1 47312	4.54212

Nutranl Gamma Spec Report- 341 East Ohio Street Site EPA

		Complete File of N	lutrani Samples														
: S	ample	Sample Sample	Description	V	Veight	U-238	U-238	Th-232	Th-232	Ra-226	Ra-226	Total Radium	Total Radium				
	ID	Date Group				Activity	Uncertainty	Activity	Uncertainty	Activity	Uncertainty	Activity	Uncertainty				
		•	L-L.75/5.75-6.5														
:	801	9/5/02 EPA	EPA#5 S1461	29.1	0 72	2.22	2 63	0 65	1 21	0.84	3 84	1.06212052	12.75	1.69	1.080046295	-4.01016	4.41936



Overburden

Nutrani Gamma Spec Report- 341 East Ohio Street Site Overburden

Complete	File of Nu	utrani Samı	ples						270,041								
Sample	Sample	Sample	Description		Weight	U-238	U-238	Th-232	Th-232	Ra-226	Ra-226	Total Radium	Total Radium				
,ID	Date	Group				Activity	Uncertainty	Activity	Uncertainty	Activity	Uncertainty	Activity	Uncertainty				
126	6/4 4/00		B-02 OB #1	22	3 20	2.72	2.01	0.77	2.25	1.00	5.40	4 2700000	4404				
120	0/14/02	overburden	B-02 OB #2	22	3 29	2 73	2 91	0 77	2.25	1 02	5.16	1.27800626	14.34	3.27	1.162497	0.12276	4.78764
127	6/14/02	overburden		25	0.06	2.34	-0 07	0.67	3.34	0.95	3.27	1.162497312	15.18	2.8	1.428006	10.80288	6.3426
	::		B-02 OB #3					0.41	0.01	0.00	3.27	1.102407012	10.10	2.0	1.420000	10 00200	0.3420
128	6/14/02	overburden	S1068	27	5.28	3.1	2 49	0 86	0.31	1.14	2.8	1.428005602	20.29	3.4	1.830027	15.38592	7.99986
	: .		B-02 OB #4														
129	6/14/02	overburden		27	7.52	3.91	1.14	1 09	2.26	1.47	3.4	1.830027322	15.97	3.78	1.378006	0.04092	5.74926
. 130	6/14/02:	overburden	B-02 OB QC	26	0 02	2 21	1.6	0.03	2.10	1.1	2.70	1 270005000	14.00	0.00	4 0 40000	0.40704	E 20052
130	. 0/14/02	overburden	B-19 OB QC	20	0 02	2.81	1.0	0.83	2.18	1 1	3.78	1.378005806	14.96	-0.03	1.340336	2.12784	5.36052
307	6/27/02	overburden		26	-1.04	2.56	0 68	0.77	0.82	1 03	1.5	1.286001555	11.02	4 03	0.952103	-2.12784	3.92832
		: -	B-19 OB#1													2.12.0	
304	6/27/02	overburden		26	1.94	3.54	0 41	0.99	2.38	1.37	2.79	1.690266251	13.42	0.76	0.980051	2.98716	4.27614
205	0/07/00		B-19 OB#2	25	4 40		0.00	0.50		0.70					:		
305	6/2//02	overburden	S1147 B-19 OB#3	25	1.46	2.09	-0.02	0.58	0.78	0.79	0.76	0.980051019	19.09	2.77	1 448068	-11.3758	5.87202
306	6/27/02	overburden		27	-5.56	2.87	1.6	0.88	1.17	1.15	2.77	1.448067678	17.14	15	1.286002	-2.12784	5.23776
			C-14 OB QC	 .: .		2.07		0.00		1.15	2.,,	1.440007070	17.17	. 1.5.	1.200002	2.127.04	3.23770
294	6/26/02	overburden	.S1143	37	3.55	2.52	0 73	0.73	2.14	1	2 87	1.238103388	14.62	-1.31	1.048618	2.33244	4.35798
			C-14 OB#1														
290	6/26/02	overburden		37	5.28	3.48	2.16	0.97	1.79	1.25	3.95	1.582213639	11.87	3.85	1.036002	-5,19684.	4.21476
291	: Elaeina:	overburden	C-14 OB#2	38	-2.54	2.06	1.44	0.62	2.41	0.83	2 05	1.026001021	14.00	c c-	4 20007	45 04550	0.0004.4
231	0/20/02	overburden	C-14 OB#3	30	-2.54	2.00	1.44	0.62	2.41	0.03	3 85	1.036001931	14.88	5,57	1.39807	15.81558	6.32214
292	6/26/02	overburden		35	7.73	3.09:	3.51	0.85	2.06	1.11	5.57	1.398070098	14.34	1.84	1.132254	9.39114	4.88994
		,	C-14 OB#4											•			•
293	6/26/02	overburden	and the second second	37	4.59	2.39	-0.09	0 66	1.93	0.92	1.84	1.132254388	14.15	2.87	1.238103	7.2633	5.15592
: 311	6/27/02	overburden	C-20 OB QC	22	C 40	2.02	1 47	0.04	2.54	4.00	4.04	4 500454000	15.05				
311	0/2//02	overburden	C-20 OB#1	. 23	-6.13	2.93	1.47	0 94	2.54	1.29	4.01	1.596151622	15.35	-0.5	1.242014	7.73388	5.3196
308	6/27/02	overburden		28	-1.04	1.92	1.52	0.56	2.51	0.77	4.03	0.952102936	15.34	2.48	1.34618	-5.29914	5.4219
	: :		C-20 OB#2												,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	0.200	
309	6/27/02	overburden		. 29	-2.59	2 65	0.67	0 79	1.81	1.09	2.48	1.34617978	19.12	4.64	1.696231	-11.5804	6.69042
040			C-20 OB#3														
310	6/2//02	overburden	D-19 OB QC	28	-5.66	3.27	3.01	1.04	1.63	1.34	4 64	1.696231116	16.82	4.01	1.596152	-12.542	5.99478
549	7/18/02	overburden		30	-1.9	2 48	1.24	0 73	1.1	0.97	2.34	1 214001647	16.29	6.2	1.504161	9.86172	6.83364
			D-19 OB#1		1.0		1.2	0.10		0.57	2.54	1 214001047	10.23	0.2	1.504101	3.00172	0.0000
546	7/18/02	overburden	S1274	30	-0.67	3.89	3.62	1.13	0.7	1.48	4.32	1.862068742	20.74	3.62	1.594553	2.92578	7.0587
	٠.		D-19 OB#2														
547	7/18/02	overburden		. 30	1.43	3 45	2.74	0 99	0.88	1.25	3 62	1.594553229	18.85	2.96	1.572005	-10.6392	6.2403
548	7/18/02	overburden	D-19 OB#3	30	5.2	3 OF	2.07	0.04	0.00	1.00	2.00	1 570005000	15.74	2.24	1 01 4000	2.0074	E 07400
540	. 1110102		D-19.5 OB	30	-5.2	3 05	2 07	0 94	0.89	1.26	2.96	1.572005089	15.71	2.34	1.214002	-3.8874	5.07408
328	6/28/02	overburden	QC S1158	31	0.73	2 71	0 79	0 78	4.12	1.09	4.91	1 340335779	23 48	37.67	2.582596	-6.40398	12.03048
			D-19.5														
325	6/28/02	overburden	OB#1 S1155	30	-0 55	3.29	1.26	0.95	1.65	1.23	2.91	1 554155719	13 17	3 24	1.116065	-0 57288	4 66488

Nutranl Gamma Spec Report- 341 East Ohio Street Site Overburden

Complete File of Nutrant Samples																	
		-	Description		Weight -		U-238 Uncertainty	Th-232 Activity	Th-232 Uncertainty	Ra-226 Activity	Ra-226 Uncertainty	Total Radium Activity	Total Radium Uncertainty	÷			
	:		D-19.5														
326	6/28/02	overburden	OB#2 S1156	30	-0.28	2.28	1.3	0.66	1.94	0.9	3 24	1 116064514	15.66	2.95	1.35	6.79272	5.87202
327	6/28/02	overburden	D-19.5 OB#3 S1157 E-19 OB QC	30	3.32	2.87	1.3	0.81	1.65	1.08	2 95	1 35	16.15	4.91	1 340336	1.49358	5 54466
479	7/11/02	overburden 	S1225 E-19 OB#1	35	-2.98	2.53	2 94	0.75	0.88	0.97	3 82	1.22613213	14.81	5.42	1.330038	-0.47058	5 4219
475	7/11/02	overburden	S1221 E-19 OB#2	35	-0.35	2.58	2.65	0.76	0.81	. 1	3.46	1.256025477	15 3	3.96	1.396281	-6 8541	5.8311
476	7/11/02	overburden	S1222 E-19 OB#3	36	-3.35	2.85	4.21	0.86	-0.25	1.1	3.96	1.396280774	13	4.75	1.142016	-9.84126	4.66488
477	7/11/02	overburden	S1223 E-19 OB#4	37	-4.81	2.28	3.15	0.69	1.6	0.91	4 75	1.142015762	16.91	3.59	1.428006	8.34768	6.26076
478	3 7/11/02 :	overburden	S1224 F-25 OB #1	36	4.08	3.06	1.2	0.86	2.39	1.14	3.59	1.428005602	14 37	3.82	1.226132	-6.09708	5.17638
180	6/19/02	overburden	S1089 F-25 OB #2	31	3.99	3.36	1.06	0.98	0.9	1.27	1.96	1.604150866	15.3°	2.03	1.172007	-9.9231	4.9104
181	6/19/02	overburden	\$1090 F-25 OB #3	. 31	-4 85	2.4	1 42	0.7	0.61	0.94	2.03	1.172006826	14.55	2.86	1.35	4.48074	5.74926
182	6/19/02	overburden	S1091 F-25 OB #4	32	2.19	2.81	1.28	0 81	1.58	1.08	2.86	1.35	13.66°	1.28	1.142016	3.08946	4.86948
183	6/19/02	overburden	S1092 F-25 OB #5	30	1.51	2.38	1.09	0.69	0.19	0.91	1.28	1.142015762	10.31	1.51	0.852115	3.72372	3.62142
184	6/19/02	overburden	\$1093 F-25 OB QC	29	1.82	1.77	0.25		1.26	0.69	1.51	0.852115016	16.97	1.22	1.388092	-0.77748	5.56512 _:
185		overburden	G-11 OB QC	28	-0.38		-0.04		1,26	•	•	1.388092216	15.2	14.15	1.578924	-0.6138	7.03824
382		overburden	G-11 OB#1	36	4.28		-0.04		2.09			1.558011553	18.79	5.96	1.45	-11.9282	6.05616
383		overburden	G-11 OB#1	48	-5.83		2.21	0 87	3.75		5 96	1.45	26.72	6.22	2.184033	-1.98462	9.1047
379	·········· .	overburden	G-11 OB#2	31	0.05	4.52	6.9		7.47		•	2.202294258	17 45	6.19	1.396173	12.11232	5.95386
380	7/3/02	overburden	S1174 G-11 OB#3	42	5.92		0.07		6.12			1.396173342	17.18	1.95	1.43405	5.38098	6.3426
38	7/3/02	overburden	S1175 G-11 OB#4	34	2.63	3,1			0.83	1,14	1.95	1 434050208	20 01	2.05	1.558012	8 75688	6.8541
384	7/3/02	overburden	S1178 G-11 OB#5	47	-0.97	4.45	2.53	1 32	3.69	174	6.22	2 184032967	14.97	6.75	1.356024	-0.04092	5 74926
38	5. 7/3/02	overburden	S1179	47	-0.02	2.81	3 75	0.82	3	1 08	6.75	1.356023599	13.36	1.39	1.201041	-6.56766	4.3989
72	1 8/16/02	overburden	I-02 S1407 I-06 OB QC	35	-1	2.21	1.28	0 65	1.53	0.87	2.81	1.086001842	21 58	2.01	1.74201	-1.5345	7.161
60	4 7/23/02	overburden	S1326 I-06 OB#1	34	0.38	2.42	-0.58	0 7	4.5	5 1	3 92	1 220655562	15 31	0.96	1.3	-2 27106	5 17638
60	1 7/23/02	overburden	S1323 Í 06 OB#2	33	1.2	3.33	1.85	0 98	1.54	1.31	3.39	1.636001222	22.36	2.44	1.78404	-4.43982	7 32468
. 60	2 7/23/02	overburden	S1324	32	-2.17	3.58	1 15	1 08	1.29	1.42	2.44	1 784040358	17 23	2.52	1.416051	2.3529	5 85156

Nutrani Gamma Spec Report- 341 East Ohio Street Site Overburden

Com	Complete File of Nutranl Samples																	
San	nple	Sample	Sample	Description		Weight	U-238	U-238	Th-232	Th-232	Ra-226	Ra-226	Total Radium	Total Radium				
13	Ď	Date	Group	•			Activity	Uncertainty	Activity	Uncertainty	Activity	Uncertainty ·	Activity	Uncertainty				
				I-06 OB#3														
:	603:	7/23/02	overburden	S1325	30	1 15	2.86	0 62	0.84	1.9	1 14	2.52	1.416050847	14.2	3.92	1.220656	0 77748	4.95132
				J.5/4 OB#4														
	818:	9/6/02	overburden	S1476	35	-0 85	2.24	1 64	0.66	0.86	0.86	2.5	1 084066419	17.23	2.11	1.386001	-1.20714	5 79018
:				J.5/4 OBQC													•	* **
	819	9/6/02	overburden	S1477	35	-0.59	2.83	0.99	0.83	1.12	1.11	2.11	1.386001443	15.15	-0.59	1.174138	-0 02046	5.0127
				J.5/5 OB#3														
	817		overburden	S1475	34	1.56			0.68	1.42	0 92	1.89	1 144027972	13.07	2.5	1.084066	-1.7391	4.58304
	:			J.5/6 OB#2														
	816	9/6/02	overburden	S1474	35	-1.22	2.38	1 99	0 72	1.64	0.97	3.63	1.208014901	14.3	1.89	1.144028	3.19176	4.7058
				J.5/7 OB#1												•		
:	815.	9/6/02.	overburden	\$1473	32	4.23	2.42	0.94	0.69	0.85	0.91	1.79	1.142015762	11.47	3.63	1.208015	-2.49612	4.86948
	722	8/16/02	overburden	J-04 S1408	36	-0.75	3.5	0 57	1.05	1.44	1.39	2.01	1.742010333	16.23	0.97	1.236002	-6.87456	4.88994
	720	8/16/02	overburden	J-07 S1406	36	-4.58	2.81	1.22	0.87	0.34	1.16	1.56	1.45	12.94	2.81	1.086002	-2.046	4.52166



EPA Sand

Complete File of Nutrani Samples Weight U-238 U-238 Th-232 Th-232 Ra-226 Sample Sample Sample Description Ra-226 Total Radium Total Radium ID Date Group Activity Uncertainty Activity Uncertainty Activity Uncertainty Activity Uncertainty A-B.5/25-27 915 9/30/02 EPA Sand 35 -1 58 2.17 0.95 0.65 -0.07 S1543 0.85 0.88 1.070046728 13.37 1.11 1.1 -1 41174 4 4603 A-B/12-15 674 8/7/02 EPA Sand S1389 39 -0.49 2.36 0.88 0.68 0.69 0.93 1 57 1.152085066 13.75 0.18 1.08600184 0.6138 4.5421 A-B/1-4 671 8/7/02 EPA Sand S1386 -3 43 1.62 0.25 0.5 31 0.65 0.67 0.9 0.836002392 1 37082 3.8874 11 79 0.96 0.9160786 A-B/15-21 692 8/8/02: EPA Sand S1390 33 -0.932 45 -0 08 0.73 1 37 1 1 29 1.238103388 2.35 1.33003759 14.87 3.3759 5.5856 A-B/4-8 8/7/02 EPA Sand S1387 31 0.67 1.9 0 27 0.54 0.69 0.74 0.96 0.916078599 0.98812955 12.44 0.87 5.50374 4.2557 A-B/8-12 673: 8/7/02 EPA Sand S1388 36 2 69 2.08 0.230.58 0.64 0.8 0.87 0.988129546 1.15208507 14.18 1.57 -1.00254 4.8286 A-C.5/21-22 914 9/30/02 EPA Sand S1542 32: -3 38 2.53 0.15 0.77 1.54 1.03 1 69 1.286001555 14.17 0.88 1.07004673 -3.23268 4.4398 A-D/22-23 925 10/1/02 EPA Sand S1551 33 -0.762.34 -1.77 0.66 3.2 1 02 1 43 1.214907404 -0.56 1.32412235 13.56498 5.9334 A-D/23-25 10/1/02 EPA Sand S1552 33 6.63 926 2.9 -0.01 0.78 -0.55 1.07 -0.561.324122351 13 43 2.3 1.12071406 -2.57796 4.5012 B.5-D/25-27 916: 9/30/02 EPA Sand S1544 32 -0.69 0.66 2.18 0.22 0.89 0.88 1.1 15 92. 1.96 1.33809566 -10.6597 5.3605 B-C/12-16 640 8/1/02 EPA Sand S1348 30: 2.5 4.14 -0.410.71 1.63 0.97 1.22 1.202081528 10.68 0.89 0.81024688 1,6368 3,4168 B-C/1-6 C 614 7/26/02 EPA Sand S1330 28 0.46 2.05 0.65 0.63 0.67 0.83 1.32 1.042017274 14 59 -1.33 1.09041277 2.94624 4.5626 B-C/16-21 S1349 641 8/1/02 EPA Sand 28: 0.8 1.67 -0.210.47 0.66 1.1 0.89 0.810246876 10,04 1.62 0.78816242 2.92578 3.3145 B-C/6-12 A 7/26/02: EPA Sand S1328 30 -4.28 1.76 0.8 0.55 612 0.85 0.740.922008677 1.65 12 24 1.25 0.97200823 -2.23014 3.9897 B-C/6-12 B 613 7/26/02 EPA Sand S1329 33 -1.09 1.95 0.94 0.58 0.31 0.78 1.25 0.97200823 1.04201727 12.72 1.32 0.94116 4.1943 C.5-G/21-22 927 10/1/02 EPA Sand S1553 33 -1.26 2.2 0.04 0.64 2.26 0.92 23 1 120714058 17.95 0.63 1.436802 8.63412 6.4449 C-E/ 1-10 A 589 7/23/02 EPA Sand S1311 34 -0.28 1.79 0.52 0.1 0.69 1 0.864002315 11.95 1.08 0.93005376 2.046 3,9079 C-E/ 1-10 B 590: 7/23/02 EPA Sand S1311 33 1.91 0.1 0.55 0.98 0.75 0.930053762 13.09 4.36 1.18600169 -0.59334 4.9718 C-E/10-12 780 8/30/02 EPA Sand S1446 -0.19 38 2.18 0.86 0 66 0.2 0.85 1.076150547 11 38 0.28 0.85 6.6495 3.7033 C-E/12-14 8/30/02 EPA Sand S1447 42 3.25 1.81 -0.010 51 0 29 0.68 0 28 0.85 12.47 1.84 1.07200746 7.161 4.6853 C-E/14-16 8/30/02.EPA Sand S1448 41 3.5 2.29 0.63 0.64 1 21 0.86 1.072007463 20.07 0.5 1.50801194 -5.97432 5.9948 1 84 C-E/16-18 8/30/02 EPA Sand 783 S1449 37: -2 92 2.93 0.23 09 1.21 0.27 0.5 1.508011936 15.78 1.01 1.28809938 2.39382 5.5242 C-E/18-20 784 8/30/02 EPA Sand S1450 36 1.17 2.7 0.36 0.76 1 04 0.65 1 01 1.288099375 9.94 3 11 0.92655275 -4.8081 3.6214 C-E/20-21 8/30/02 EPA Sand S1451 33 -2.351.77 0.15 0.53 785 2.96 0.76 0.926552751 12.09 0.82 0.98005102 0.96162 4.0102 3 11 D-F/24.5-27 895: 9/25/02.EPA Sand S1527 35 -0.59 2 38 -0.230.7 2.21 1 1 98 1.220655562 12.25 0 88 1 01212647 -5.34006 4 2557

Complete	File of N	utrani Sampi	les														
Sample ID	Sample Date	Sample Group	Description	į 1	Weight	U-238 Activity	U-238 Uncertainty	Th-232 Activity	Th-232 Uncertainty	Ra-226 Activity	Ra-226 Uncertainty	Total Radium Activity	Total Radium Uncertainty				
		•	D-G/22-23				,	ĺ	,	,	,	,	,				
928	10/1/02	EPA Sand	S1554 D-G/23-24 5	35	4.22	3.15	1.16	0 9	-0.53	1.12	0.63	1.436802004	12.88	0.69	0.97005155	-15.1199	3.7646
929	10/1/02	EPA Sand	S1555 E-G/11-13	34	-7.39	1.84	1.35	0.59	-0.66	0.77	0.69	0.970051545	13.93	1.79	1.09041277	-11 3962	4.0715
746	8/21/02	EPA Sand	S1426 E-G/1-3	42	0.33	1.19	0.19	0.34	0.22	0 45	0.41	0.564003546	9.47	0.87	0.78600254	4.46028	3.3759
693	8/8/02	EPA Sand	S1391	34	1.65	2.73	0 67	0 79	1.68	1 07	2.35	1.330037593	15.16	1.05	1.13810774	1.57542	4.8695
747	8/21/02	EPA Sand	E-G/13-15 S1427	36	2.18	1.65	0 63	0.47	0.24	0.63	0 87	0.786002545	13.89	2.28.	1.12893755	-4.46028	4.3989
. 748	8/21/02	EPA Sand	E-G/15-17 S1428	37	-2.18	2.15	-0 89	0.64	3.17	0 93	2.28	1.128937554	12.32	1.21	0.96400207	-8.2863	3.8669
749	8/21/02	EPA Sand	É-G/17-19 S1429	34	-4.05	1.89	1.19	0.58	0.02	0 77	1.21	0.964002075	13.67	2.02	1.11606451	-4.62396	4.5421
750	8/21/02	EPA Sand	E-G/19-21 S1430	34	-2.26	2.22	0.74	0.66	1.28	0.9	2.02	1.116064514	12.92	-0.02	1.03469802	-2.43474	4.0511
		:	E-G/3-7														
642	8/1/02	EPA Sand	S1350 E-G/7-11	31	1.43	1.62	-0.22	0.46	1.84	0.64	1.62	0.78816242	10.68	1.52	0.88005682	1,49358	3.56
643	8/1/02	EPA Sand	S1351 F-H/24.5-27	34	0.73	1.74	0.4	0.52	1.12	0.71	1.52	0.880056816	13.47	2.03	1.17413798	7.44744	5,115
894	9/25/02	EPA Sand	S1526 G-H/21-24 5	34	0.54	2.64	-0.23	0.74	1.44	1.06	1.21	1.292749009	14.94	1.98	1.22065556	-1.20714	4.8695
931	10/1/02	EPA Sand	S1557	32	0.19	2.31	-0.38	0.69	1.25	0.93	0.87	1.158015544	13,38	1.93	1.0560303	-4.01016	4,4194
712	8/14/02	EPA Sand	G-I/ 15-17.5	35	2.09	1.35	-0.3	0.38	0.69	0.52	0.39	0.644049688	13.21	0.47	0.99201814	-2.2506	4.2557
713	8/14/02	EPA Sand	G-I/ 17.5-20 G-I/11-13	35	-1.1	2.08	0.36	0.6	0.11	0 79	0 47	0.992018145	11.42	0.49	0.91400219	-5.07408	3.6214
699	8/8/02	EPA Sand	S1397 G-I/1-3	34	-3.59	1.73	. 0.04	0.53	0.83	0.72	0.87	0.894035793	15.07;	1.55	1.16400172	-12.8489	4.6444
694	8/8/02	EPA Sand	S1392 G-l/13-15	32	0.77	2.38	-0.48	0 7	1.53	0 96	1 05	1.188107739	15.12	.1.17	1 18004237	-3.15084	4.9513
700	8/8/02	EPA Sand	S1398 G-I/20-21	35	-6.28	2.27	1 05	0.7	0.5	0.93	1.55	1.164001718	18.95	4.65	1.52003289	14.56752	6.7313
930	10/1/02	EPA Sand	S1556 G-I/3-5	34	-5.57	1.99	-1.06	0.63	2.85	0.89	1.79	1.090412766	15.22	0.87	1.15801554	0.38874	4.7263
695	8/8/02	EPA Sand	S1393 G-I/5-7	3 3·	-1 54	2.42	0.47	0 7	0 7	0 95	1 17	1.180042372	15.19	1	1.20104121	-0.94116	4.849
696	8/8/02	EPA Sand	S1394	34.	-0.46	2.37	-0 64	0 68	1.64	0.99	1	1.201041215	17.81	2.27	1 45602198	-2.046	6.0357
697	8/8/02	EPA Sand	G-I/7-9 S1395	.33	-1	2.95	1 55	0.88	0.72	1.16	2 27	1.456021978	17 35	1.14	1.39402296	1.90278	6.0357
698	8/8/02	EPA Sand	G-I/9-11 S1396	34	0.93	2.95	1.55	0 83	-0 41	1.12	1 14	1.394022955	11 88	0.87	0 89403579	-7.34514	3.5396
· 701	8/8/02	EPA Sand	G-I5 clay S1399	40	7.12	3.29	1.19	0 92	3.46	1.21	4.65	1,520032894	16.31	0.75	1.46478667	-4.8081	5.606
932	10/1/02	EPA Sand	H-I/21-24.5 S1558	34	-1.96	2.16	1 5	0.64	0.43	0.84	1 93	1.056030303	13.92	8.88	1.27440182	-1.98462	5.5037
89 0	9/25/02	EPA Sand	H-J/24.5-27 S1528	36	-2.61	2.08	1 88	0 62	-1	8.0	0.88	1.012126474	11 87	-0.1	0.96607453	-2.47566	3,9283
760	8/26/02	EPA Sand	I-J.5/1-4 S1434	35	-1 32	1.98	0.05	0 59	1.78	0 82	1 83	1.010198	10 94	0 85	0 83600239	-0 77748	3.4987

Complete	File of Nu	ıtranl Sampl	les														
Sample - ID :		Sample	Description		Weight		U-238	Th-232	Th-232	Ra-226	Ra-226	Total Radium	Total Radium				
ID	Date	Group	I-J.5/4-7			Activity	Uncertainty	Activity	Uncertainty	Activity	Uncertainty	Activity	Uncertainty				
761	8/26/02	EPA Sand	S1435 I-J.5/7-9.5	36	-0 38	1 71	0.19	0.5	0 66	0.67	0.85	0.836002392	9.86	0.25	0.72801099	-6.01524	3.0485
762	8/26/02	EPA Sand	S1436 I-J/21-24	34:	-2 94	1.49	0 5	0 44	-0.25	0.58	0.25	0.728010989	8.87	0.46	0 63600314	9.24792	2.8439
917	9/30/02	EPA Sand	·S1545 .I-L/11-12	34	-5.21	2.62	0 73	0.79	1.23	1 08	1 96	1.338095662	10.86	-0 88	0 8261961	11.19162	3.7442
802	9/5/02	EPA Sand	S1462 I-L/12-13	3 3	-1.96	2.16	0 72	0.64	0 97	0 87	1.69	1.080046295	13.97	0.6	1.09201648	0 1023	4 5421
803	9/5/02	EPA Sand	S1463 I-L/13-14	34	0.05	2.22	0.18	0.66	0.42	0.87	. 0.6	1.092016483	14.31	1.96	1.34617978	-0.65472	5.4424
804	9/5/02	EPA Sand	S1464 I-L/14-15	34	-0.32	2.66	0.63	0.79	1.33	1.09	1.96	1.34617978	26.7	1.45	2.0041956	2.41428	8.7569
805	9/5/02	EPA Sand	S1465 I-L/15-16	34	1.18	4.28	. 0 03	1.18	1.42	1.62	1.45	2.004195599	22.19	2.44	1.97200406	-5.07408	7.7953
806	9/5/02	EPA Sand	S1466 I-L/16-17.5	3 3	-2.48	3.81	0 01	1.18	2.43	1.58	2.44	1.972004057	16.99	2.61	1.44402216	-7.50882	5.8516
807	9/5/02	EPA Sand	S1467 I-L/17-19	31	-3.67	2.86	0.96	0.86	1.65	1.16	2.61	1.44402216	17.79	2.1:	1.47200543	-3.19176:	6.0152
868	9/19/02	EPA Sand	S1508 I-L/19-21	34	1.2	2.2	0.12	0.61	0.44	0.83	0.32	1.030048543	18.13	1.34	1.45660564	-3.5805	5.9129
869	9/19/02	EPA Sand	S1509 I-L/9.5-11	35	-1.75	2.89	0.2	0.84.	1.14	1.19	1.34	1.456605643	10.61	0.22	0.7940403	2.43474	3.3759
779	8/30/02	EPA Sand	:S1445 ;J.5-L/ 1-4	35	4.71	2.36	-0.44	0.66	1.43	0.89	0.99	1.108016245	13.56	1.06	1.07615055	-0.38874	4.4603
776	8/30/02	EPA Sand	S1442 J.5-L/4-7	36	-3.56	2.32	0.57	. 0.71	0.91	0.96	1 48	1.1940268	15.92	1.99	1.2980755	-2.31198	5.2787
777	8/30/02	EPA Sand	S1443 J.5-L/7-9.5	. 37	-1.13;	٠	1 64	0.79	0.35	1.03	1 99	1.298075499	19.02	2.01	1.53687996	3.5805	6.138
778	8/30/02	EPA Sand	S1444 J-N/21-22	36	1.75	3	-0.84	0.88	2.85	1.26	2.01	1.536879956	15.07	0.99	1.10801625	9.63666	4.8286
	:	EPA Sand	S1520 J-N/22-23	34	0.47	2.49	0 41	0.71	1 6	1	2.01	1.226417547	9.82	1 71	8.0		3.1713
		EPA Sand	S1521 J-N/23-24	35	-3 88	1.55	1 04	0.48	0.67	0.64	1.71	8.0	. 12 75	2.49	1 11251966		4.4194
890		EPA Sand	S1522 J-N/24-25	33		2.16	0.71	0.64	1 78	0.91	2.49	1.112519663	10.15	1.92	0.85		3.4987
		EPA Sand	S1523 J-N/25-26	34:		1.71	1.12	0.51	8.0	0.68	1.92	0.85	10.65	1 31	0.7940403	-3.04854	•
		EPA Sand	S1524 J-N/26-27	37		1.62	0.1	0.47	1 21	0.64	1 31	0.794040301	13.58		1 24201449	-1.6368	
893	:	EPA Sand	S1525 L-N/11-13	33.	-0.8			0 75	0 68	0 99		1.242014493	16.35	1.21	1.29274901	1.10484	5.4014
863		EPA Sand	S1503 L-N/1-3	36	0.6			0.56	1 42	0 78	•	0.960208311	10.35	1.98	0.83815273	•	3.4782
808	:	EPA Sand	S1468 L-N/13-15	33	-1.56			0 88	1.27	1 18		1.472005435	17.38	2 21	1.4345034	-7.4679	5.6674
864		FPA Sand	S1504 L-N/15-17	35	0.12			0.49	1 66	0 68		0 838152731	10 46	1 47	0 88005682	5.2173	3 826
865	9/19/02	EPA Sand	S1505	35	2 55	1.87	0.54	0.52	0 93	0.71	1 47	0 880056816	12.15	0 85	0.97200823	-2.02554	4.0306

									2. /								
Comple	te File of Nu	itranl Samp	les														
Sample	Sample	Sample	Description	١	Weight	U-238	U-238	Th-232	Th-232	Ra-226	Ra-226	Total Radium	Total Radium				
ID	Date	Group				Activity	Uncertainty	Activity	Uncertainty	Activity	Uncertainty	Activity	Uncertainty				
		***	L-N/17-19									•					
86	6 9/19/02	EPA Sand	S1506	33	-0.99	1.97	0.26	0 58	0.59	0.78	0.85	0.97200823	12.93	2.28	1.13463651	2.70072	4.6444
			L-N/19-21	- 1													
8	9/19/02	EPA Sand	S1507	36:	1 32	2.27	-0.55	0 65	2.83	0 93	2 28	1,134636506	14 03	0.32	1 03004854	2.4552	4.5012
:			L-N/3-5											•			
	9/5/02	EPA Sand	S1469	26	-3.65	2.77	-0 16	0.83	2.37	1.17	2 21	1.434503398	16.61	7.31	1 38841636	-2.70072	5 9334
			L-N/5-7														
: 83	9/11/02	EPA Sand	S1491	33	-0.38	2.79	1 08	0.8	-0.97	1.04	0 11	1.312097557	15.71	0.18	1.2080149	0.65472	5.1355
			L-N/7-9														
84	10 9/11/02	EPA Sand	S1492	35	0.32	2.51	0.06	0.72	0.12	0.97	0.18	1.208014901	12.72	0.99	1.0404326	12.70566	4.583
			L-N/9-11														
: 84	11 9/11/02	EPA Sand	S1493	35	6.21	2.24	-0.14	0.6	1.13	0.85	0 99	1.040432602	64.22	240.7	9.27373172	-186.493°	44.194



Lift Soil

Nutranl Gamma Spec Report- 341 East Ohio Street Site Lift Soil

								Line								
	File of Nutrani Sa	•														
Sample ID	Sample Sample Date Group			Weight		U-238	Th-232	Th-232		Ra-226 Uncertainty	Total Radium Activity	Total Radium				
	Date Group	B-C/10-16			Activity	Officertainty	Activity	Oncertainty	Activity	Uncertainty	Activity	Uncertainty	;			
623	7/29/02 lift soil	#1 S1337	31.	-0.84	2.14	0.26	0.61	0.45	0.84	0.71	1 038123307	14.37	2.70	1,222007	-5.6265	4,9104
	7723702 1111 3011	B-C/10-16	51.	0.04	4.14	0.20	0.01	0.43	. 0.04	0.71	1 030123307	14.31	2.19	1.222007	-3.6263	4.9104
624	7/29/02 lift soil	#2 S1338	30	-2 75	2.4	0 78	0.73	2.01	0 98	2.79	1.222006547	12 73	2.52.	1.052093	6 4449	4 41936
<u>52</u> -		B-C/10-16	50	2,0	2.7	. 070	0 1 5	2.01	0 30	2.75	1.222000347	12 73	2.52.	1.032033	. 6 4449	441936
625	7/29/02 lift soil	#3 S1339	33.	3.15	2.16	0.52	0.62	2	0.85	2.52	1.052093152	15,43	2.6	1.278006	-9.04332	5.05362
	7725752 1111 5511	B-C/10-16		0	2.10	0.02	0.02	-	0.05	2.52	1.032033132	15.45	2.0	1.270000	-3.04332	3.03302
626	7/29/02 lift soil	#4 S1340	32	-4.42	2.47	1 09	0.77	1.51	1.02	2.6	1.27800626	13.98	0.69	1.130044	-4.092	4.64442
		B-C/10-16								2.3	7.27000020	10.00	0.00,	1.150044	7.002	4.04442
627	7/29/02 lift soil	#5 S1341	33	-2	2.27	0.68	0 67	0.01	0.91	0.69	1 130044247	14.03	3 41.	1.292749	5.6265	5.36052
		B-C/10-16													0.0200	
628	7/29/02 lift soil	#6 S1342	31	2.75	2.62	0.23	0.74	3.18	1.06	3.41	1.292749009	18.46	-0.85	1.426359	8.85918	5.95386
		B-C/1-10 #1	· ·									:				
617	7/29/02 lift soil	S1331	29	2.6	1.77	1.08	0.5	0.92	0.66	2	0.828009662	18.81	1.76	1.445164	2.98716	5.9334
		B-C/1-10 #2										•				•
618	7/29/02 lift soil	S1332	29:		2.9	-0.79	0 82	2.55	1.19	1.76	1.445164351	10.94	2.8	0.920054	-1.67772	3.90786
		B-C/1-10 #3	11		:											•
619	7/29/02 lift soil	S1333	29	-0.82	1.91	1.73	0.56	1.07	0.73	2.8	0.920054346	17.53	3.29	1.469966	-5.03316	5.70834
	:	B-C/1-10 #4							:							
620	7/29/02 lift soil	S1334	29	-2.46	2.79	-0.81	0.82	4.1	1.22	3.29	1.469965986	14.91	1.69	1.284056	8.47044	5.68788
		B-C/1-10 #5						_					:			
621	7/29/02 lift soil	S1335	30	4.14	2.78	1.69	0.78	0	1.02	1.69	1.284056074	19.09]	1.35	1.434503	18.90504	6.4858 <u>2</u>
	7/00/00 1/8 1	B-C/1-10 #6 S1336			0.47	0.40	0.00			4.05					. = . = .	
622	7/29/02 lift soil	E.5-20.5	28	9.24	3,17	-0.46	0 83	1.81	1.17	1.35	1.434503398	14.01	0.71	1.038123	-1.71864	4.37844
724	8/16/02 lift soil	S1410	33	0.63	2.84	: ·	0.86	1.66	. 110	2.41	. 1 40012009	10.50	2.20	4 250026	2 52704	F 25020
	8/15/02 lift soil	F-14 S1404	36	0.76		0.75- 0.26-		3.52		2.41 3.26				1.350926 0.968349	-2.53704	5.25822 3.7851
	8/16/02 lift soil	F-20 S1409	34	-3.36				0.62							-4.7058	5.81064
	0/10/02 III Soil	G.5-20.5			2.33	0.55	0 /4	0.02	0.55	0 97	. 1 230001010	15.03	2.41:	1.460137	1.20090	3.01064
725	8/16/02 lift soil	S1411	35	-1.24	2.57	-1.31	0 77	3 69	1.11	2.38	1 350925609	31.92	48.7	4 302894	20 68746	21 10656
	5,70,02 mr 30n	K.5-17.5		7	2.57	1.51	577	3 03	: 1.71	2.30	. 550525005	31.32	40.7	7 302034	23.00140	£1. 13030
812	9/5/02 lift soil	S1472	31	-3.07	2.65	0.8	0.83	0.98	1 14	1.78	1.410141837	13.73	0.35	1,148564	-1 59588	4.64442
		- · · · -			2.30		2.30	3.50		,0		13.73	0.55			1.01742



Background

Nutrani Gamma Spec Report- 341 East Ohio Street Site Background

	Commiste File of Nutra	nl Camples						Dackgroun	u						
C i -	Complete File of Nutra	•		Weight	U-238	U-238	Th-232	Th-232	Ra-226	Ra-226	Total Radium	Total Radium			
Sample ID	Sample Sample Date Group	Description		weight		Uncertainty		Uncertainty			Activity	Uncertainty			
IU	Date Group				Activity	Oncertainty	Activity	Oncertainty	Activity	Uncertainty	Activity	Uncertainty			
29	6/6/02 background	bkg060602	7.5	4.42	2.45	-0.49	0.7	0.42	0 95	-0.07	1.180042372	18.12	5.66 1.666433	19 58022	7.7748
34		bkg060702	7.5	-1.93		-0 33		0.07	0.84	-0 26	1.032279032	18.32	10.25 1.794492		7.44744
54		bkg061002	7.5	-0.03		-0.2		0.96			0.966074531	10.68	7.62 0.960469		4.2966
	*	bkg061102	7.5	-4 88		-0.4		1.07	0.87		1.080046295	12.97	9.49 1.256025		5.29914
72 99		-	7.5	2 25		-1.05		0.88			1 434503398	16.46	9.31 1.666433		7.12008
	· · · · · · · · · · · · · · · · · · ·	bkg061202	7.5 7.5	2.5		-1.05 -0.75		1 39							
107		bkg061302								-	0.810246876	16 11	and the second s	10 61874	6.83364
114		-	7.5	-0.73	1.78	0.28		-0 37	0.73		0 908019824	18 67	7.61 1.562082		6.87456
131	:		7.5	1.04	2.62	-0.29		0.26			1.340335779	17.54		-1.39128	6.87456
153		bkg061802	20	-0.37	1.99	-0.31	0.56	-0.11	0.79		0.968349111	16.18	7.69 1.438402		6.21984
178		bkg061902	7.5	-1.64	1.85	0		-0.35	e e		0.958018789	12.4	8.44 1.16211	4.52166	5.05362
192		bkg062002	7.5	-1.83	2.71	-0.91	0.85			:.	1.470544117	18.1	8.29 1.814745	-2.2506	7.89756
204	6/21/02 background	bkg062102	7.5	-6.34	2.44	0.8	0.81	-0.19			1,358013255	17.5	8.06 1.596246		7.07916
223	6/24/02 background	bkg062402	7.5	-0.29		-0.58		0.09		-0 49	1.112519663	15.05	8.41 1.338432		5.79018
255	6/25/02 background	bkg062502	7.5	1.23	1.99	-0.18	0.58	-0.05	0.8	-0.23	0.988129546	13.13	-0.23 0.98813	2.51658	4.07154
282	6/26/02 background	bkg062602	7.5	1.63	2.34	-0.25	0.67	-0.81	0.9	-1 06	1 12200713	20.96	7.65 2.044431	-8.3886	8.5932
295	6/27/02 background	bkg062702	7.5	1.14	2.13	-1.58	0.6	0.27	0.86	-1.31	1.048618138	18 04	8.74 1.708567	-13.6264	7.22238
312	6/28/02 background	bkg062802	7.5	3.78	2 6	0.05	0 75	-0.55	0.99	-0.5	1.242014493	14.47	8.47 1.538376	-2.6598	6.42444
330	7/1/02 background	bkg070102	7.5	2 66	2.05	-0.9	0.57	0.74	0.82	-0.16	0.998649088	16.84	9.51 1.710263	0.4092	7.3656
356	7/2/02 background	bkg070202	7.5	3.85	2.18.	-0.68	0.6	0.5	0.87	-0.18	1.056834897	14.48	7.44 1.412091	5.68788	6.15846
372	7/3/02 background	bkg070302	7.5	-1.5	2.42	-0.74	0.74	1.4	1.05	0.66	1.284562182	19.86	7.5 1.992787	6.58812	8.83872
386	7/8/02 background	bkg070802	7.5	-3.21	2.15	0 14	. 0.68	1.25	0 99	1.39	1.201041215	14.23	7.57 1.276127	1.1253	5,3196
424	7/9/02 background	bkg070902	7.5	0.18	2.15	-0.18	0 63	0.92	0 87	0.74	1.074150827	14.74	7.59 1.318218	4.8081	5.74926
441	7/10/02 background	bkg071002	7.5	-0.26	1.78	0.28	: 0.53	-0.54	0.69	-0.26	0.870057469	14.75	7.96 1.348073	-4.07154	5.70834
462		bkg071102	7.5	3.03		0.52		-1.37	0.87	-0.85	1.086001842	20.37	8.8 1.768163	i	7.3656
485		bkg071102 bkg071202	7.5	3.5		-1.24		1.55			1.131591799	15.64	7.24 1.502431		6.5472
517	.i	bkg071502	7.5	-3.01	2.56	-0.75		2.01	1.14		1.398463442	19.64	6.79 1.721046	•	7.71342
519		bkg(2)71502	7.5	-0.36		-0.73		0.22			0.97416631	16.64	9.04 1.730462		7.73388
523	the second contract of the contract of	bkg071602	7.5	1.84	2.19	-0.17		0.09			1.060188662.	15.91		13.03302	6.19938
533	Account to the control of the contro	bkg071702	7.5	2.23		0.13		-0.6		•	0.97416631	15.3	8.56 1.366528		6.11754
543		-	7.5	-1.3		-0.3		0.94			1.218277472	17.7	8.96 1.754138		7.73388
553		-	7.5	-1.95		0.56			0.84		1.056030303	13.77	8.45 1.372771		6.0357
557		bkg071902	7.5	-2.64		1.61					1.830027322	9.93	7.95 0.904268		3.92832
587	·		7.5	-1.49		0.16	*		Acres de la constantina della		1.224132346	14.02	7.36 1.210372		5.36052
605		•	7.5	-1.49	2.53	0.16					1.224132346	12.15	7.87 1.176138		5.36032
	·	•											8.66 1.338432		5.7288
608		<u> </u>	7.5	-5.95		0 72		-0.29			1.210165278	14.19		12.60336	5.1269 5.19684
610	A	bkg072602	7.5	-4.66		-0 51					1 298499134	12.94			
615	· · · · · · · · · · · · · · · · · ·	·	7.5	1.44		-0.63					1.090412766	12.44	and the second s	10.27092	4.93086
629		bkg073002	7.5	4.33		-0.63					1.426359001	11.77	6.74 1.046375		4.68534
632	and the same and the same of the same of	bkg073102	7.5	1.19		-0 25					1.298499134	11.46	8.39 1.038557	6.36306	4.68534
638		J	7.5	-3.01	2.25	0.82		-1 1			1 16211015	13.5	7 85 1.260357		5.56512
65,1		. •	7.5	-0.51	2 93	0 63					1.448067678	15.05	7 55 1 382245		6.0357
656		bkg080502	7.5	-0 21	1.79	-0.4					0 932308962	10.4	8.05 0.948103		4 15338
657		soilstd080502	36.9	2 95		4.64					0.94810337	13.74	4.85 1.156028		4.82856
660	* * * * * * * * * * * * * * * * * * *	-	7.5	0.32		-0.48					1 398463442	12.46	9.08 1.160388		5.0127
664			7.5	-3.87							1 14621115	9.24	7.1 0.796492		3 51912
680		•	7.5	-1 36			0.69	-0 €	0.92	0 33	1 15	13 02	8 3 1.182286		5 09454
70:	8/9/02 background	bkg080902	7.5	-2.35	2 74	0.84	0.84	-0.09	1.2	0 75	1.464786674	14.27	8 72 1.294681	1.9437	5.60604
70-			7.5	-0 24		-0 34	0 59	1.66	0 84	1 32	1.026498904	16.8	7.03 1.510298		6 56766
70	8/13/02 background	bkg081302	75	0.82	1 37	0 27	0 4	-0 45	0 54	-0 18	0 672011905	12.15	8 68 1.182286	1 18668	5.0127
•															

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	Complete F	ile of Nutra	ını Samples														
Sample	Sample	Sample	Description		Weight	U-238	U-238	Th-232	Th-232	Ra-226	Ra-226	Total Radium	Total Radium				
!D	Date	Group				Activity	Uncertainty	Activity	Uncertainty	Activity	Uncertainty	Activity	Uncertainty				
710	8/14/02 6	background	bkg081402	7.5	-0.42	1.57	-0 59	0 47	0 57	0 66	-0 02	0.810246876	13.43	7.13	1.202539	1 39128	5.23776
714	8/15/02 b	packground	bkg081502	7.5	-2.48	1.77	0 55	0 55	-0 06	0 73	0 49	0.914002188	11.14	7.46	0.996393	3 10992	4.35798
717		packground	bkg081602	7.5	-2.3	1.85	0 36	0 56	0.94	0 79	1 3	0.968349111	13 12	8.25	1.224418	7.54974	5.46282
729		packground	bkg081902	7.5	2.54	2.39	-0.69	0 67	0.5	0.96	-0.19	1.170683561	13.73	7.82	1.271417	-8.10216	5.60604
731	8/20/02 b	background	bkg082002	7.5	0 05	2.47	-0 23	0.71	1.52	1 03	1.29	1.2509996	14.37	7.91	1.358713	12 50106	6.11754
739		packground	-	7.5	-1.13	1.71	0 3	0 51	-0.42	0.7	-0.12.	0.866083137	15.47	7.1	1.372771	10.47552	6.2403
751		oackground	bkg082202	7.5	-1 19	1,98	-0 87	0 59	0.85	0.85	-0.02	1.034698024	11.22	7.82	0.990202	-0 12276	4.27614
753	8/23/02 b	oackground	bkg082302	7.5	-1.99	2.86	0.59	0.91	0.72	1 25.	1 31	1.546156525	14.61	8.35	1.358713	-2.20968	5.9334
. 755			bkg082602	7.5	-1.92	1.64	1.24	0.49	-1.05	. 0 65	0.19	0.814002457	13.87	8.08	1.246315	-3 4782	5.38098
: 768	8/27/02 t	packground	bkg082702	7.5	3.43	2.64	0.11	0.75	-0.45	. 1	-0.34	1.25	13.96	7.11	1.296302	5.13546	5.70834
770	8/28/02 b	oackground	bkg082802	7.5	-0 17	2.11	1 07	0.64	-0.22	0.84	0.85	1.056030303	10.38	8.21	1.026158	2.8644	4.43982
772		background	bkg082902	7.5	1.08	2.39	-0.85	0.68	0.61	0.95	-0.24	1.168289348	16.69	7.02	1.43534	2.10738	6.4449
774		background	bkg083002	7.5	0.02	1.95	-0.4	0.58	1.42	0.83	1.02	1.012570985	14.08	8.36	1.372771	-4.11246	5.97432
786	Annual Control of the	packground	bkg090302	7.5	0.47	1.96	0.13	0 58	0.69	0.79	0.82	0.980051019	11.68	8.65	1.05423	-2.47566	4.48074
788		packground		7.5	-0.13	2.23	1.4	0.65	-0.69	0 87	0.71	1.086001842	12.97	8.39	1.246315	1.88232	5.44236
795		packground		7.5	1.6	2.04	0 55	0 57	-0.9	0.77	-0.35	0.958018789	17.2	8.11	1.564864	-5.38098	6.71088
813	·	background	3	7.5	-0.78	2.27	-0.66		1.01	0.94	0.35	1 148564321	10.22	7.08	0.880909	0.98208	3.92832
820		packground		7.5	-0.01	2.45	0.15	0.69	-0.74	0.95	-0 59	1.174137982	12.84	7.62	1.188486	3.86694	5,2173
822		packground		7.5	1.17	2.15	-1;	0.6	0.62	0 85	-0.38	1.040432602	11.88	8.39	1.112115	4.95132	4.84902
824		oackground		7.5	-6.36	1.85	0.71		-0.55	0.76	0.16	0.956033472	10.35	8.76	0.962133	8.42952	4.25568
843			bkg091202	7.5.	3.1	1.84	-1.66	0.5	0.99	0.74	-0.67	0.893084542	13.84		1.372771	-6.2403	5.79018
845		—	bkg091302	7.5	-3.21	2.17	1.01	0.65	-0.58	0.89	0.43	1.102088926	10.93		1.012126	10.3323	4.46028
848	Acres and account the		bkg091602	7.5	-2	2.68	1.17	0.82	-1.32		-0.15	1.380036231	12.5		1.196328	2.3529	5.2173
850		.	bkg091702	. 7.5	-5.27	1.89	1.58	0.58	-1 7	0 76	-0.12	0.956033472	15.12	7.92	1.38058	1.57542	5.97432
852	and the second second	- .	bkg091802	7.5	0.18	2.76.	-0.96	0.83	1.28	1 18	0.32	1.442671134,	11.03	8.47	1.052616	5.34006	4.66488
858	.*		bkg091902	7.5	2.87	2.21	-1.37	0.61	1.36	0.87	-0.01	1.062544117	12.25		1.120045	5.66742	4.72626
880			bkg092002	7.5	0.43	3.16	-0 56	0.92	0.63		0,07	1.600781059	12.61		1.148085	-9.63666	4.78764
882			bkg092302	7.5	3.32	2.41	-0.7	0.65	0.38		-0.32	1.110180166	12.02	6.8	1.05423	3.64188	4.66488
884	district in the		bkg092402	7.5	-0 33	2.15	0.33	0.63	-1.8	0.81	-1.47	1.026157883	13.03	9.06	1.170043	1.65726	5.05362
886	Charles and account to	background		7.5	0.11	2.01	-0.3		0.12	0.8	-0 18	0.982293235	12.68		1.146342	2.00508	5.05362
897		background		7.5	-1.21	1.92	-0.29	0.57	0.19	0.78	-0 1	0.966074531	13.57		1.284056	6.01524	5.6265
901	a car a conserva ca for	background		7.5	1.03	1.74	-0.46	0.5	0.44	0.7	-0.02	0.860232527	11.98		1.094806	6.01524	4.95132
918	3 10/1/02 I	background	bkg100102	7.5	5.47	1.83	0.28	0.51	-1 16	0.65	-0.88	0.826196103	9.56	8.55	0.860523	-7 7748	3.72372



Soil Standard

Nutranl Gamma Spec Report- 341 East Ohio Street Site Soil Standard

							S	oil Standard								
	Complete File of Nutra	•				11.000	T1 000	TI 000	D 000							
Sample ID	Sample Sample	Description				U-238	Th-232	Th-232	Ra-226	Ra-226	Total Radium					
	Date Group		26.0		3.28	5 82	0 97	-	-	Uncertainty	Activity	Uncertainty				
28	6/6/02 soil standard		36.9	0 2	3.26	4 55		3.83	1 23	9.65	1.566460979	14.41		1.180042	9.04332	5.0127
30	6/6/02 soil standard	•	36.9	9.57			1.03	1.11	1,31	5.66	1.666433317	22.44		2.098976	6.05616	9.24792
31	6/6/02 soil standard		36.9	2.96 -2.92	4.52 3.55	5.13 5.46	1.31	1.85	1 64	6.98	2.098975941	17.82		1.672633	-5.97432	7.2633
	6/6/02 soil standard		36.9		1.07	5.53	1 04	3 22	1 31	8.68	1.672632655	5.42		0.498197	1.04346	2.18922
33,	6/6/02 soil standard		36.9	0.51			0.31	2 42	0.39	7.95	0.498196748	13.81		1.032279	-3.94878	4 17384
35	6/7/02 soil standard		36 9	-5.78	3.64	6.97	1 11	3.28	1.41	10.25	1.794491571	40.31		5.537192		
55	6/10/02 soil standard		36.9 36.9	1.96	2.1 2.59	5 19 5 16	06	2.43	0.75	7.62	0.960468636	12.07	3 98	1.05603	-0.5115	4.37844
73	6/11/02 soil standard	**		-0.16			0.76	4.33	1	9.49	1.256025477	17.9		1.560288	6.40398	6.83364
100	6/12/02 soil standard	3	36.9	-1.03	3.48	6 34	1.03	2.97	1 31	9.31	1.666433317	41.96		5.887147	-74.147	27.2118
108	6/13/02 soil standard		36.9	5.19	3.34	5.05	0.95	2.46	1 19	7.51	1.522694979	35.34		4.757226		21.01242
115	6/14/02 soil standard	N 1 111 11 1	36.9	3.53.	3.36	4 17	0.95	3.44	1.24	7.61	1.562081944	13,1		1.126144	-1.023	4.8081
132	6/17/02 soil standard		36.9	-0.68	3,36	4.49	0.98	3,49	1.29	7.98	1 620030864	14.91		1.356024	7.3656	5.89248
154	6/18/02 soil standard		36.9 36.9	2.68	3.04	3.77	0.89	3.92	1.13	7.69	1.438401891	140.06	***	21.04373	-523.919	100.8064
179	6/19/02 soil standard	447 44 44	36.9	2.21	2.47 3.86	5.02 7.39	0.71	3.42	0.92	8.44	1.16211015	17.38		1.604151	8.16354	6.87456
193	6/20/02 soil standard			-1.1	***		1.13	0.9	1.42	8.29	1.814745161	59,63:		7.674406	-26.7003	34.782
205	6/21/02 soil standard	- 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1	36.9 36.9	1.59	2.83	4.68	0 98	3.38	1.26	8.06	1.596245595	15.39		1.318218	4.03062	5.7288
224 256	6/24/02 soil standard	the state of the s		-1.4°	4.02	5.51	0 83	2.9	1.05	8 41	1.338431918	12.31		1.072007	6.6495	4.6035
	6/25/02 soil standard		36.9	-1.98		5.63	1.2	3.41	1.51	9.04	1.928756076	21.		1.928756	-4.05108	8.22492
283	6/26/02 soil standard	THE TOTAL STREET	36.9	-4.1:	4.2 3.53	5.22	1.26	2.43	1.61	7.65	2.044431461	13.82		1.485295	2.7621	6.69042
296 313	6/27/02 soil standard		36.9 36.9	-6.66		6.82 5.89	1.06 0.95	1.92	1.34	8.74	1.708566651	55.18		7.244929		33.02244
				-1.3	3.14			2.58	1.21	8.47	1.538375767	9.67		0.942019		4.05108
331 357	7/1/02 soil standard	and the second second	36.9 36.9	0.2	3.6· 3.01·	5.36 4.37	1 05 0 86	4.15	1.35	9.51	1.710263138	11.98			-1.26852	4.17384:
	7/2/02 soil standard	4 11 11	36.9	2.78				3.07	1.12	7.44	1.412090649	12.8		1.184061	5.91294	5.15592
373 387	7/3/02 soil standard		36.9	3.22	4.32 2.6	6.23	1.24	1.27	1.56	7.5	1 992786993	14.75	13.59	1.436802		6.48582
425	7/8/02 soil standard		36.9	0.55	and the second of the second	3.18	0.78	4.39	1.01	7 57	1.276126953	73.09		9.714119		41.20644
442	7/9/02 soil standard 7/10/02 soil standard	and the second s	36.9	2.35 -1.99	2.81 2.79	4.41	0.81	3.18	1 04	7.59 7.96	1.318218495	12 16		1.168247	-6.4449	4.93086
463	7/11/02 soil standard		36.9	-1.99	3.6	4.3	0.82	3.66	1.07		1.348072698	21.18		2.164625	-15.2222	9.1047
486	7/12/02 soil standard		36.9	-3.77 -0.65	3.0	4.64 4.69	1 08 0 93	4.16	1.4 1.18	8.8	1.768162888	12.08		1.082312	2.84394	4.78764
518	7/15/02 soil standard		36.9	0.42	3.77.	5 39	1.08	2.55 1.4	1.34	7 24 6.79	1.502431363	14.81		1.393126	-4.74672	6.17892
520	7/15/02 soil standard		36.9	4.45	3.78	5.98	1.03	3.06	1.34	9.04	1.721046193	11.43		0.974166	-0.73656	3.90786
524	7/16/02 soil standard		36.9	6.37	3.03	4 45	0.85	1.98	1 07	6.43	1.730462366 1.366528448	18.08 22.71		1.727339 2.084035	8.9001	7.85664 8.55228
529	7/16/02 soil standard		36.9	3.01	3.82	4.43	1.12	3.83	1.44	8.26		16.79			-6.93594	6,4449
534	7/17/02 soil standard	***	36.9	0.91	2.99	5.65	0.85	2.91	1.44	8.56	1.82428068 1.366528448	21.78		1.466492 2.002324	-4.092	9.04332
544	7/18/02 soil standard	*	36.9	4.14	3.78	4.95	1.07	4.01	1.07	8.96	1.754137965	10.62		1.102588	-1.39128	4,86948 ⁻
554	e de la companya de		36.9	-0.49	2.95.	6.68	0.86	1.77	1.07	8.45	1.37277092	29.46		3.890823		18.55722
558	7/22/02 soil standard		36.9	-0.74	1.92	5 29	0 56	2.66	0.71	7.95	0.904267659	10.75		0.894036	3.15084	3.74418
588	7/23/02 soil standard	and the second s	36.9	2 33	2.62	5 03	0.75	2.00	0.95	7.95	1.210371844	10.79		0.864002	-0.57288	3.66234
606	7/24/02 soil standard		36.9	3.69	2.53	4.45	0.73	3 42	0.93	7.87	1.176137747	26 55		2.772183	13 74912	12.84888
609	7/25/02 soil standard		36.9	-02	2.33	5,21	0.72	3 42	1.05	8 66		16.67		1.298499		4.76718
611	7/25/02 soil standard		36.9	6.16	2.54	3.87	0.83	3 45	0 92	7 61	1.338431918	11.52		0.922009	-9 53436 -8.75688	3.60096
616	7/29/02 soil standard		36.9		2.41						1.16211015					
630	7/30/02 soil standard	and the second second second	36.9	5.02 1.83	2.41	4.08 5.26	0.69 0.65	3 78	0 88 0 82	7 86 6 7 4	1.118257573	10.1	2	0.82801	5.3196	3.62142° 6.40398°
633	7/30/02 soil standard	and the second s	36.9	3.11	2.29	6 22		1.48	0.82		1.046374694	16.97		1.572927 4.615886	8.0817 22.97658	22.9152
639	8/1/02 soil standar		36.9	3.11	2.72	4.54	0.65 0.78	2.17	0.81	8 39 7 85	1.038556691	39.36			8.47044	5.115
652	8/2/02 soil standar		36.9	3.54 1.2	2.72	4.54	0.78	3.31 3.08	1.09	7 85 7 55	1.260357092	13.98	4.41	1.202082 1.066068	7.2633	5.115 4.54212
661	8/6/02 soil standard		36.9	1 64	2 45	4 77		3 08 4 35	0.91	9.08	1.382244551	11.72 14.04	0.71	1.000008	0 79794	4.54212
665	8/7/02 soil standard		36.9	1.13	1 72	4.86	0.5			7.1	1.160387866		2.61	0.85	-2 33244	3.53958
681	8/8/02 soil standar		36.9	0.23	2.49	4.86 5.05	0.5	2.24	0.62 0.93		0.79649231	10 9.15		0.85	5 70834	3.25314
901	GIGIUZ SUII Standan	30/13/1000002	30,9	0.23	2.49	5.05	0.73	3 25	0.93	8.3	1 182285921	9,15	2.99	0 /00024	5 /0834	3.23314

Nutranl Gamma Spec Report- 341 East Ohio Street Site Soil Standard

								5	on Standard								
	Complete F		•														
Sample	Sample	Sample	Description	,	Weight		U-238	Th-232	Th-232	Ra-226	Ra-226	Total Radium	Total Radium				
ID	Date	Group						-	_		Uncertainty	Activity	Uncertainty				
703			soilstd080902	36.9	0.95	2.74	5.52	0.81	3.2		8.72	1.294681428	12.64	_	1.026499		4.07154
705	and the second second		soilstd081202	36.9	1 17	3.21	4.51	0.93	2.52		7.03	1.510297984	8.29		0.672012		2.80302
707			soilstd081302	36.9	0.58	2.45	4 92	0.73	3.76		8.68	1.182285921	46 5	178.26	6.43199		0.30126
711			soilstd081402	36 9	0.68	2.56	4.89	0.75	2 24	0.94	7 13	1.202538981	8 6	0.39	0.64405		2.7621
715		oil standard	soilstd081502	36.9	1.52	2.13	5.39	0 62	2.07	0.78	7.46	0.996393497	17 25	3.26	1.382208	1.55496	5.6265
718			soilstd081602	36.9	3.69	2,67	5.2	0.76	3.05	0 96	8.25	1.224418229	19.21	33.74	2.144621	-18.9869 9	9.59574
730			soilstd081902	36.9	-3.96	2.74	7.17	0 81	0 65	0.98	7 82	1.271416533	15.05	1.29	1.251	0.1023 5	5.05362
732	8/20/02 s	oil standard	soilstd082002	36.9	6.11	2.99	4.83	0.85	3.08	1.06	7.91	1.358712626	12.78	1.11	1.012126	2.2506 4	4.35798
740	8/21/02 s	oil standard	soilstd082102	36.9	5.12	3.05	5 13	0 86	1.97	1.07	7.1	1.37277092	14.44	1.96	1.128007	-3.94878 4	4,72626
752	8/22/02 s	oil standard	soilstd082202	36.9	-0.06	2.09	4 13	0.61	3 69	0.78	7.82	0.990202	17.25	1.31	1.546157	-4.07154 5	5.85156
754	8/23/02 s	oil standard	soilstd082302	36.9	-1.08	2.9	6.42	0.85	1.93	1 06	8.35	1.358712626	10.18	0.19	0.814002	-3 92832	3.35544
756	8/26/02 s	oil standard	soilstd082602	36.9	-1.7	2.63	5.12	0.77	2.96	0.98	8.08	1.246314567	410.83	1774.85	64.64936	-1669.88 30	J9.8462
769	8/27/02 s	oil standard	soilstd082702	36.9	2.51	2.79:	4.8	0.8	2.31	1.02	7.11	1.296302434	12.33	0.85	1.05603	-0.34782 4	4.31706
771	8/28/02 s	oil standard	soilstd082802	36.9	1.4	2.17	5.09	0.63	3 12	0.81	8.21	1.026157883	16.29	-0.24	1.168289	2.20968 4	4.88994
773	8/29/02 s	oil standard	soilstd082902	36.9	1.03	3.15	5.99	0.91	1.03	1.11	7.02	1.435339681	11.16	1.02	1.012571	0.04092	3.9897
775	8/30/02 s	oil standard	soilstd083002	36.9	-2.01	2.92	6.37	0.86	1.99	1 07	8.36	1.37277092	14.38	1.48	1.194027	-7.28376 4	4.74672
787	9/3/02 s	oil standard	soilstd090302	36.9	-1.21	2.19	4 97	0.65	3.68	0.83	8.65	1.054229577	11.62	0.71	1.086002	-0.26598 4	4.56258
789	9/4/02 s	oil standard	soilstd090402	36.9	0.92	2.66	5.08	0.77	3.31	0.98	8.39	1.246314567	46.27	210.33	6.942622	-83.3 745 33	3.57486
796	9/5/02 s	oil standard	soilstd090502	36.9	-2.63	3.28	5.06	0.98	3.05	1.22	8.11	1.564864211	13.11	2.57	1.092016	4.23522 4	4.74672
814	9/6/02 s	oil standard	soilstd090602	36.9	0.48	1.92	5.99	0.56	1.09	0.68	7 08	0.880908622	13.64	1.79	1.142016	8.65458 4	4.95132
821	9/9/02 s	oil standard	soilstd090902	36.9	1.89	2.55	5.64	0.74	1.98	0.93	7.62	1.188486432	13,38	-0.38	1.040433	2.39382	4.3989
823	9/10/02 s	oil standard	soilstd091002	36.9	2.42	2.37	4.32	0.68	4.07	0.88	8.39	1,112115102	12.38	0.16	0.956033	-13.0126	3.7851
825	9/11/02 s	oil standard	soilstd091102	36.9	4,12	2.08	5.29	0.59	3.47	0.76	8.76	0.962133047	11.73	2.09	0.922009	-2.51658 3	3.84648
844	9/12/02 s	oil standard	soilstd091202	36.9	-3.05	2.83	6.26	0.86	2.51	1.07	8.77	1.37277092	13.62	0.43	1.102089	-6.56766 4	4.43982:
. 846	9/13/02 s	oil standard	soilstd091302	36.9	5.05	2.18	3.72	0.62	3.71	0.8	7.43	1.012126474	27.27	69.37	3.474162	-7.07916 16	6.55214
849	9/16/02 s	oil standard	soilstd091602	36.9	1.15	2.55	5.22	0.74	3.09	0.94	8.31	1.196327714	12.45	-0.12	0.956033	-10.7824	3.86694
851	9/17/02 s	oil standard	soilstd091702	36.9	0.77	2.92:	5.57	0.86	2.35	1.08	7.92	1.380579588	16.67	0.32	1.442671	0.36828 5	5.64696
853	9/18/02 s	oil standard	soilstd091802	36.9	2.61	2.28	5.7	0.66	2.77	0.82	8.47	1.052615789	21.17	11.19	2.331738	-1.96416 10	0.51644
859	9/19/02 s	oil standard	soilstd091902	36.9	2.77	2.31	3	0.68	5.24	0 89	8.24	1.120044642	18.59	8.72	1.660271	-16 2657	6.73134
881	9/20/02 s	oil standard	soilstd092002	36.9	-4.71	2.34	5.21	0.7	3.51	0.91	8 72	1.148085363	14.57	-0.32	1.11018	6.79272	4.93086.
883	9/23/02 s	oil standard	soilstd092302	36.9	1.78	2.28	4.64	0.65	2.16	0.83	6.8	1.054229577	14.5	-1.47	1.026158	-0.67518	4.3989
885	9/24/02 s	oil standard	soilstd092402	36.9	0.81	2.47	4.58	0.71	4.48	0.93	9.06	1.170042734	12.98	-0.18	0.982293	0.22506 4	4.11246
887	9/25/02 s	oil standard	soilstd092502	36.9	0.98	2.47	5.17	0.71	2.08	0.9	7.25	1.146342008	15.43	2.01	1.226418	0.96162 5	5.09454
898	9/26/02 s	oil standard	soilstd092602	36.9	2.94	2.75	5.21	0.78	4.24	1.02	9.45	1.284056074	23.99	28.52	2.527449	2.57796 1	11.5599
902	9/30/02 s	oil standard	soilstd093002	36.9	2.94	2.42	6.63	0.69	1.31	0.85	7.94	1.094805919	27.2	35.02	3.14587	11.78496 14	4.79258
919	0 10/1/02 s	oil standard	soilstd100102	36.9	-3.8	1.82	6 24	0.54	2.31	0.67	8.55	0.860523097	10.47	0.19	0.786003	0.16368	3.25314
933	3 10/3/02 s	oil standard	soilstd100302	36.9	-0.97	2.69	5.44	0.79	3 44	1	8.88	1.27440182					



EPA Special

Complete I	File of Nutrani Samples							·								
	Sample Sample	Description		Weight		U-238	Th-232	Th-232	Ra-226	Ra-226	Total Radium					
ID 30	Date Group	D. J. L. #1 C #1 .	21.7	24.01		Uncertainty 86.72	Activity 2.57	Uncertainty 69.17	,	,	Activity	Uncertainty	464	5 00 405 404 4	24.6402	00 47504
· 38	6/7/02 EPA Special	Batch #1 Sample #1 Batch #1 Sample #1	. 21.7	-24.01	8.95	00.72	2.37	09:17	3.27	155 89	4 159062394	43.67	161	5 894064811	-34.6183	26.47524
109	6/13/02 EPA Special	07D	21.7	-29.43	10 27	93 61	2 94	70.9	3 74	164 51	4 757226082	47 53	158.6	6.378220755	-41 9839	28 82814
		Batch #1 Sample #1						•						0.01.222.700		
194	6/20/02 EPA Special	14D	21.7	-13.05	17	102.23	4 81	65,24	5.98	167.47	7.674405514	52 _. 45	157.23	6.804594036	-11.8259	31.11966
		Batch #1 Sample #1														
297	6/27/02 EPA Special	21D	21.7	11.14	16.14	91.94	4 51	68 59	5.67	160.53	7.244929261	43.23	160.66	5.761267222	-62 9554	25.94328
200	7/8/02 EPA Special	Batch #1 Sample #1 32D	217	-10.56	11.05	95.67	3 13	69.73	3.95	165.4	E 020701741	22.26	146.00	4 DE0064ED1	EA 1167	10 EE076
389	6/7/02 EPA Special	Batch #1 Sample #2	21.7 20.3	-16.36	. 11.03	96.26	3 66	64 74		161	5.039781741 5.894064311	32.26 37.28	146.83 177 99	4.358864531 5.238091255	-54.1167 -36.6848	23.4267
53	Orrioz El A Opecial	Batch #1 Sample #2	20.0	10 32	12 37	30.20	3 00	0474	702	101	3 034004011	37.20	111 33	3.230031233	-30.0040	23.4207
110	6/13/02 EPA Special	07D	20.3	-20.52	14.09	98.91	4.01	59 69	4.96	158 6	6.378220755	50.77	178.28	6.74985185	-36.8075	30.60816
		Batch #1 Sample #2													•	
195	6/20/02 EPA Special	14D	20.3	-5.78	15.21	98.16	4.28	59 07	5.29	157.23	6.804594036	52.33	162.68	7.181002715	-47,4058	32.49048
		Batch #1 Sample #2														
298	6/27/02 EPA Special	21D	20.3	-30 77	12.68 ⁻	102.23	3,61	58.43	4.49	160 66	5.761267222	61.58	176.04	8.20698483	-14.0969	37,3395
390	7/8/02 EPA Special	Batch #1 Sample #2 32D	20.3	-26.45	9.56	92.25	2 74	54.58	3.39	146.83	4.358864531	33.65	177.37	4.468131601	54 8123	20 00088
40	6/7/02 EPA Special	Batch #1 Sample #3	21.6	-17.93			3 26	69.93		177 99	5.238091255	26.08	103.39	3.379600568		and the second second
	Critical Critical Control	Batch #1 Sample #3				. 100.00	0.20		· · · · · ·	55	0.20003 (200	20.00	155.55		25.25.5	10.01.002
: 111-	6/13/02 EPA Special	07D	21.6	-17.99	14.96	108,92	4.23	69.36	5.26	178.28	6.74985185	31.24	107.36	4.246374925	-17.6161	19.21194
1	:	Batch #1 Sample #3								•						
196	6/20/02 EPA Special	.14D	21.6	-23,17	15.88	104.41	4.52	58.27	5.58	162.68	7.181002715	39.41	108.06	5.30835191	-7.09962	24.06096
		Batch #1 Sample #3	24.0		40.05	100.00	5 4 F	00.00		470.04			407.40		00 1051	47 40400
299	6/27/02 EPA Special	21D Batch #1 Sample #3	21.6	-6.89	18.25	109,36	5.15	66.68	6.39	176.04	8.20698483	30.66	107.48	3.884044284	-22.4651	17.43192
: 391	7/8/02:EPA Special	32D .	21.6	-26.79	9.78	108.55	2.79	68 82	3.49	177.37	4.468131601	26.84	104.95	3.46394284	-27 1095	15.52914
41	6/7/02 EPA Special	Batch #1 Sample #4	21.9	-14 3	7.37	64.44	2.11	38.95			3 379600568	35.72	190.28	4.882007784		21.64668
		Batch #1 Sample #4														
112	6/13/02 EPA Special	07D	21.9	-8.61	9 39	68.91	2.66	38.45	3.31	107 36	4.246374925	49.99	194.47	7,046616209	-34.2705	31.5084
		Batch #1 Sample #4													:	
197	6/20/02 EPA Special	14D	21.9	-3.47	11.76	64.16	3.31	43.9	4.15	108 06	5.30835191	74.59	206.34	10 14037968	-57.6358	45.5235
300	6/27/02 EPA Special	Batch #1 Sample #4	21.9	-10.98	8 52	65,65	2.43	41 83	3.03	107.48	3.884044284	57.7	209.92	8.099209838	-14.5471	36.7257
300	0/21/02 EFA Special	Batch #1 Sample #4	. 21.3	-10.90	0 32	05,05	2.43	41 03	3.03	107.40	3.004044204	51.1	203,32	0.039209030	-14.547.1	30.7237
392	7/8/02 EPA Special	32D :	21.9	-13.25	7.59	64.35	2.17	40.6	2.7	104.95	3.46394284	56.76	225.84	7.474570222	-68.2546	33.32934
42	6/7/02 EPA Special	Batch #1 Sample #5	21.5	-39.07	10.58	116.5	3.04	73.78	3.82	190 28	4.882007784	10.61	6.49	0.992018145	-3.15084	4.07154
		Batch #1 Sample #5			•											
113	6/13/02 EPA Special	.07D ::	21.5	-16.75	15 4	114.67	4.38	79.8	5.52	194 47	7.046616209	11.74	-0.09	0.908019824	-1.49358	3.64188
	6/20/02 EDA 6** ' !	Batch #1 Sample #5	24.5	20 47	22.25	110.51	6 33	06.00	7.00	206.24	10 14027000	10.00	26.07	2 525221604	14 1700	11 1507
198	6/20/02 EPA Special	14D	21.5	-28.17	22 25	119.51	6.32	86 83	7.93	206 34	10.14037968	18.68	26.07	2.525331661	-14.1700	11.1507
301	6/27/02 EPA Special	Batch #1 Sample #5 21D	21.5	-7.11	17.95	123.5	5 04	86.42	6.34	209.92	8 099209838	22.63	40.83	2.81625638	-5.0127	12.25554
		Batch #1 Sample #5				125.5	00.	00, 12	0.0	200.02	0 00020000		10.00	. 2.0 . 020 . 0	0.0.2.	
393	7/8/02 EPA Special	32D	21.5	-33.36	16.29	131.83	4.64	94.01	5.86	225.84	7 474570222	14.71	3.99	1.31605471	-0.36828	5.4219
43	6/7/02 EPA Special	Batch #2 Sample #1	27.8	-1.54	1.99	2.8	0.6	3 69	0.79	6 49	0.992018145	13.12	7.18	1.194738465	10.72104	5.40144
		Batch #2 Sample #1														
116	6/14/02 EPA Special	:07D	27.8	-0.5	2.35	3 66	0.69	1.64	0.89	5.3	1.126143863	9.8	7 41	0.896437393	3.70326	3.92832
1 200	6/21/02 EPA Special	Batch #2 Sample #1 14D	27.8	1.97	2.8	2.92	0.81	2 48	1.04	5.4	1.318218495	12 81	7.81	1.168246549	-10.6392	4.88994
206	O/Z I/OZ EPA Special	Batch #2 Sample #1	41.0	1.97	2.8	2.92	0.01	2 48	1.04	5.4	1.510210495	12 01	1.01	1,100240349	-10.0332	T.00334
314	6/28/02 EPA Special	21D	27 8	4 93	1.98	2 95	0.57	3.42	0.75	6.37	0 942019108	9.1	8.26	0.882383137	-5.07408	3 80556
		Batch #2 Sample #1														
426	7/9/02 EPA Special	32D	27.8	-3.15	2 41	4 43	0.72	2.15	0 92	6 58	1 168246549	12.56	8.27	1.326122166	3.49866	5 6265
44	6/7/02 EPA Special	Batch #2 Sample #2	27.8	5.24	2 64	5.62	0 75	1.56	0 93	7 18	1.194738465	10.65	5.76	0.934077085	-0.6138	3.94878

								EPA Special								
•	ile of Nutrani Samples		1/	فطعناه	11.000	U-238	Th 222	Th 222	D- 200	D - 000	7	T 4 15 "				
	Sample Sample	Description	V	Veight	U-238	Uncertainty	Th-232	Th-232 Uncertainty	Ra-226	Ra-226	· ·	Total Radium				
ID	Date Group	Batch #2 Sample #2			Activity	Officertainty	Activity	Uncertainty	Activity	Officertainty	Activity	Uncertainty				
117	6/14/02 EPA Special	07D	27.8	1.81	1 92	4.81	0 56	2.6	0.7	7 41	0 896437393	12 44	5.52	1.09808925	1 1253	4.72626
117	6/14/02 EFA Special	Batch #2 Sample #2	21.0	1.01	1 32	4.01	0.50	2.0	0.7	7 41	0 090437393	12 44	3.32	1.09000925	1 1253	4.72020
207	6/21/02 EPA Special	14D	27.8	-5.2	2 39	5.03	0.72	2 78	0 92	7 81	1 168246549	9.99	6 36	0 884081444	C 11754	3 6828
207	0/2 I/OZ LFA Special	Batch #2 Sample #2	21.0	-5.2	2 33	5.05	0.72	270	0 32	7 61	1 100240349	9.99	0.30	0 004001444	-0 11/54	3 0020
. 315	6/28/02 EPA Special	21D	27.8	-2.48	1.86	6.09	0.55	2.17	0.69	9.76	0.000100117	11.02	E 40	1.010445446	0.00040	4 42002
. 313	0/20/02 EFA Special	Batch #2 Sample #2	21.0	-2.40	1.00	0.03	0.55	2.17	0.09	8.26	0 882383137	11.03	5.49	1.010445446	2.82348	4.43982
427	7/9/02 EPA Special	32D	27.8	1.71	2.75	4.52	0.81	3.75	1 05	8.27	1 226122166	10.47	5.54	0.0000000057	0 5115	3.74418
45	6/7/02 EPA Special	Batch #2 Sample #3	27.2	-0.3	1.93	3.23		2.53			1.326122166 0.934077085		5.54 6.48	0.886002257 1.236001618	0.5115	5.19684
40	orroz EFA Speciai	Batch #2 Sample #3	. 21.2	-0.5	1.55	. 3.23	0.57	. 2.55	. 0.74	. 576	0.934077065	13.61	0 40	1.230001616	3.39636	5.19004
118	6/14/02 EPA Special	07D	27.2	0.55	2.31	3.16	0.67	2.36	0.87	5 52	1.09808925	12.87	7 14	1.152085066	2.7621	4.78764
	6/ 14/0Z:LFA Special	Batch #2 Sample #3	. 21.2	0.55	.2.01	3.10	0.07	. 2.30	Ų.61	. 332	1.09000925	12.07	1 14	1.132063060	2.7021	4.70704
208	6/21/02 EPA Special	14D	27.2	-2.99	1.8	3.47	0.54	2 80	0.7	6 36	0 884081444	13.71	5.71	1.322006051	0.36030	5.56512
200	0/21/02 Lr A Speciai	Batch #2 Sample #3 :	. 41.4	-2.33	1.0	5.47	0.54	2.89	0.1	0.30	0 004001444	13.1	3.71	1.322000031	-0.30020	3.303.12
316	6/28/02 EPA Special	21D	27.2	1.38	2.17	4.15	0.63	1.34	0.79	5.49	1 010445446	8.99	5.72	0.770064932	4 66488	3.3759
	d/Zd/dZ Li A Opeciai	Batch #2 Sample #3	. 	1.50	2.17	, 4.,13		. 1.54	0.13	3.43	1.010440440		3.72.	0.770004332	4,00400	3,37,33
428	7/9/02 EPA Special	:32D :	27.2	0.25	1.83	2.15	0.53	3.39	0.71	5.54	0.886002257	14.44	6.41	1.222006547	9.49344	5.19684
. 46	6/7/02 EPA Special	Batch #2 Sample #4	26.7	1.66	2.54	2.59		3.89			1.236001618	10.02	6.86	0.91214034	2.18922	3.92832
	O///OZ.Li // Opcoidi	Batch #2 Sample #4	20.1	1.00	2.54	2.55	0.14	3.03	0.55	. 0.40	1.250001010	. 10.02	0.00	0.31214054	2.10322	3,32032
: 119 [:]	6/14/02 EPA Special	07D	26.7	1.35	2.34	1.69	0.68	5.45	0.93	7.14	1 152085066	12.06	5.84	1.056030303	2 20968	4.56258
···· ···· ····························	:	Batch #2 Sample #4			2.0 ,	1.00	0.00	5.15	0.00	,	1 102003000	12.00	0.04	. 1.00000000	2.20000	4.002.00
209	6/21/02 EPA Special	14D	26.7	-0.18	2.72	2.87	0.79	2.84	1.06	5 71	1 322006051	9.17	6.29	0.892020179	7.42698	3,80556
: 255		Batch #2 Sample #4	. 20			2.07		2.01	1.00	011	1 322333331		0.20	0.002020710	7.42000	0.00000
317	6/28/02 EPA Special	-21D	26.7	2.28	1.65	3.33	0 47	2.39	0.61	5.72	0.770064932	12.73	6.48	1.12200713	6.93594	4.74672
	0/20/02,5111111111111111111111111111111111111	Batch #2 Sample #4			,	0.00		2.00		5.,2	0.110001002		3.10	1.12200110	0.0000 1	
429	7/9/02 EPA Special	32D	26.7	4.64	2.54	1.57	0.73	4 84	0.98	6.41	1 222006547	10.47	6.73	0.956033472	-2 78256	3.9897
: 47	6/7/02 EPA Special	Batch #2 Sample #5	28.5	1 07	1.92	3,41	0.56	3.45			0.91214034	10.75	10.53		-1.98462	4.17384
		Batch #2 Sample #5	::			,					0.0 . 2	19.1.7				
120	6/14/02 EPA Special	07D	28.5	1.08	2.23	3.24	0.64	2.6	0.84	5.84	1.056030303	13.54.	3.69	1.12200713	-6.48582	4.5012
===		Batch #2 Sample #5				- · .						47171				
210	6/21/02 EPA Special	14D	28.5	3.63	1.86	3.35	0.54	2.94	0.71	6.29	0.892020179	14.76	2.83	1.24016128	3.25314	5.36052
		Batch #2 Sample #5						•								
318	6/28/02 EPA Special	21D	28.5	3.39	2.32	1.68	0.67	4.8	0.9	6.48	1 12200713	13.76	2.57	1.196327714	-8.51136	4.88994
		Batch #2 Sample #5	•													•
430	7/9/02 EPA Special	·32D	28.5	-1.36	1 95	3.64	0.58	3.09	0.76	6.73	0.956033472	10.08	3.12	0.858020979	0.6138	3.62142
49	6/7/02 EPA Special	Batch #3 Sample #1	28.3	-2.66	1 95	1.36	0.6	2.68	0.79	4 04	0.992018145	12.49	2.88	1.170042734	2.2506	4.88994
		Batch #3 Sample #1														
121	6/14/02 EPA Special	07D -	28.3	-3.17	2 2	1.06	0.67	2.63	0 9	3 69	1 12200713	14.27	3.5	1.206026534	-2.02554	4.95132
	* '	Batch #3 Sample #1														
211	6/21/02 EPA Special	14D	28.3	1.59	2.62	2.38	0 76	0.45	0 98	2.83	1.24016128	13.92	2.98	1.208014901	2.78256	5 15592
		Batch #3 Sample #1														
319	6/28/02 EPA Special	·21D	20	-4 16	2.39	2.95	0.74	-0.38	0.94	2.57	1,196327714	11.31	3.23	0.914002188	-1.78002	3.7851
		Batch #3 Sample #1														
431	7/9/02 EPA Special	32D	28.3	0.3	1 77	1.02	0.51	2 1	0.69	3.12	0.858020979	11.59	2.65	0.980051019	7.28376	4.27614
50	6/7/02 EPA Special	Batch #3 Sample #2	28	1.1	2 39	1.79	0 71	1.09	0.93	2 88	1.170042734	10.85	2.63	0.878009112	1 5345	3 74418
		Batch #3 Sample #2														
122	6/14/02 EPA Special	07D	28	-0.99	2.42	2.37	0.73	1 13	0 96	3.5	1 206026534	9.95	3.27	0.842021377	0.14322	3.43728
		Batch #3 Sample #2														
. 212	6/21/02 EPA Special	14D	28	1.36	2 52	1.49	0 72	1 49	0.97	2 98	1 208014901	10.99.	3.33	0.920054346	-0 77748	3.8874
•		Batch #3 Sample #2														
320	6/28/02 EPA Special	21D	28	-0.87	1 85	1 03	0 55	2 2	0 73	3 23	0 914002188	10.79	4.4	1	-1.00254	4.13292
		Batch #3 Sample #2														
432	7/9/02 EPA Special	32D	28	3 56	2.09	1,18							3.89	0.814002457		3.3759
51	6/7/02 EPA Special	Batch #3 Sample #3	27	0.75	1.83	1.47	0.53	1.16	0 7	2.63	0.878009112	11.92	2.07	0.970051545	1.45266	4.092

Complete	File of Nutrani Sample	s						Er A Special								
Sample ID	Sample Sample Date Group	Description	W		U-238 Activity	U-238 Uncertainty	Th-232 Activity	Th-232 Uncertainty	Ra-226 Activity	Ra-226 Uncertainty	Total Radium Activity	Total Radium Uncertainty				
:		Batch #3 Sample #3			,		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	,		•	,,,,,,,	5.10cman(y				
123	6/14/02 EPA Special		27	0.07	1 68	1.26	0.51	2 01	0.67	3 27	0 842021377	9 13	3.36	0.814002457	10.37322	3 51912
213	6/21/02 EPA Special		27	-0.38	19	2 2	0 56	1 13	0.73	3 33	0 920054346	13.47	2.81	1 128007092	6.50628	4.76718
321	6/28/02 EPA Special	•	27	-0 49	2.02	1 78	0.6	2.62	8.0	4.4	1	13.93	1.6	1.114001795	15 8565	5.0127
. 433	7/9/02 EPA Special		27	-1.94	1.65	2.06	0.49	1 83	0.65	3.89	0.814002457	8.3	4.06	0.756042327	-7.65204	3.10992
52	6/7/02 EPA Special	Batch #3 Sample #4	28.6	0.71	2	1.39				2.07	0.970051545	8.85	2.53	0.702139587	7.161	3.02808
:		Batch #3 Sample #4									•					
124	6/14/02 EPA Special	Batch #3 Sample #4	28.6	5.07	1.72	1.2				•	0 814002457	10.33	3.33	0.858020979	3.84648	3.60096
214	6/21/02 EPA Special	Batch #3 Sample #4	28.6	3,18	2.33	0.37	0.68	2.44	0.9		1.128007092	8.98	3.45	0.8	3.82602	3.41682
322	6/28/02 EPA Special	21D Batch #3 Sample #4	28.6	7.75	2.45	0.82	0.67	0 78	0.89	1.6	1.114001795	12.75	4.54	1.152085066	-11.7645	4.54212
434	7/9/02 EPA Special	32D	28.6	-3.74	1.52	2.69	0.46	1.37	0.6	4.06	0.756042327	12.42	3.12	1.084066419	0.77748	4.58304
53	6/7/02 EPA Special	Batch #3 Sample #5 Batch #3 Sample #5	28.9	3.5	1.48	-0.03	0.41	2.56	0.57	2.53	0.702139587	11.24	0 76	0.966074531	-0.06138	3.86694
125	6/14/02 EPA Special	07D Batch #3 Sample #5	28.9	1.88	1.76	1.23	0.51	2.1	0.69	3.33	0.858020979	14.27	5.16	1.27800626	6.73134	5.58558
215	6/21/02 EPA Special	14D Batch #3 Sample #5	28.9	1.87	1.67	1.53	0.48	1 92	0.64	3,45	0.8	12.64	2.87	1.1	1.2276	4.58304
323	6/28/02 EPA Special		28.9	-5.75	2.22	1.49	. 0.68	3.05	: 0.93	4 54	1.152085066	15.76	6.24	1.538083223	0.98208	6,30168
435	7/9/02 EPA Special	· · · · · · · · · · · · · · · · · · ·	28.9	0.38	2.24	2.4	0.66	0.72	0.86	3.12	1.084066419	11.77	4.88	1.068269629	-4.9104	4.58304
56	6/10/02 EPA Special		27	-0.25	2.14	1.89		2.09		3.98	1 056030303	13.8	2.97	1.192015101	5.25822	5.15592
:		Batch #4 Sample #1	7.1				0.0.	2.50	. 7:51		, 555555555		2.57	1.102010101	3.23322	. 0.10002
134	6/17/02 EPA Special		27	4.02	2.09	1.8	0.6	1.38	0.78	3.18	0.984073168	11.39	3.1	0.942019108	-0.69564	3.9897
225	6/24/02 EPA Special		. 27	3.25	2.25	1.28	0.64	2.4	0.86	3.68	1.072007463	10.89	3.69	0.922008677	9.57528	3.96924
332	7/1/02 EPA Special	•	27	-0.62	2.04	1.7	0.6	1 84	0.79	3.54	0.992018145	11.3;	3.24	1.020049018	8.85918	4.56258
444	7/10/02 EPA Special		27	0.38	2.5	2.11	0.74	1.76	0.98	3.87	1.228006515	10 93	3.72	0.94810337	-2.39382	3.9897
57			28.9	2.57	2.52	1.89				2.97	1.192015101	12.76	3.58	1.158015544	5.34006	4.86948
:		Batch #4 Sample #2	28.9	4.68	1.94	1,14			:	3.69	0.922008677	10 6	3.72	0.894035793	-0.12276	3.7851
226		Batch #4 Sample #2														
333	7/1/02 EPA Special	Batch #4 Sample #2	28.9	4 33	2.23	2.25				3.24	1.020049018		2.86	0.834086326	4.78764	3.66234
445			28.9	-1,17	1.95	2.11				3.72	0.94810337	12.85	3.41	1.020049018	0.45012	4 31706
135		and the second s	28.9	-0.34	1.95	1.54				and the second second	0.942019108		3.38	1.114001795	6.73134	4 82856
. 58	6/10/02 EPA Special	Batch #4 Sample #3 Batch #4 Sample #3	29.2	2.61	2.38	1.31	0.69	2.27	0.93	3.58	1 158015544	10.84	2.91	0.986002028	1.10484	4.1943
. 136	6/17/02 EPA Special	07D Batch #4 Sample #3	29.2	3.29	2.36	1.57	0.67	1 81	0.89	3.38	1.114001795	11.51	3.91	1.036001931	6.97686	4.37844
227	6/24/02 EPA Special		29.2	-0.06	1.85	1 33	0.53	2.39	0 72	3 72	0.894035793	11.73	3.41	0.966074531	-1 88232	3 94878
334	7/1/02 EPA Special		29.2	2.34	1.79	1.73	0.51	1 13	0.66	2.86	0 834086326	12.38	2 53	0.964002075	8 32722	4.2966
446	7/10/02 EPA Special		29 2	0.22	2 11	1.30	0.62	2 02	0.81	3 41	1 020049018	11.68	3 32	0.960208311	0.98208	4.07154
59			27.7	0.54	2.05	1.65					0 986002028		2 95	0.864002315	6 07662	3 74418
137		Batch #4 Sample #4	27.7	3 41	2.03	1.33						9.48	3 79	0 838152731		3 53958
. 137	o, i i i o pecial		211	J 41	2 14	1.55	0 02	2.50	, 000	3 3 1	1.030001931	3.40	3 13	0.000102701	3 13.20	5 55555

C 1 - 4	. File of Nutrant Complet							EPA Special								
Sample	File of Nutrant Samples Sample Sample	Description	,	Weight	U-238	U-238	Th-232	Th-232	Ra-226	Ra-226	Total Radium	Total Radium				
ìD	Date Group	Description		rreigin		Uncertainty					Activity	Uncertainty				
		Batch #4 Sample #4					,,	,	,		,,,,,,,					
228	6/24/02 EPA Special	14D	27.7	-0 92	1.93	1 15	0 57	2 26	0 78	3.41	0.966074531	8.13	4.26	0 72201108	6.30168	3.04854
		Batch #4 Sample #4														
335	7/1/02 EPA Special	21D	27.7	4 07	2.1	0.95	0.58	1.58	0.77	2.53	0 964002075	15.11	4.53	1.322006051	0 34782	5.40144
		Batch #4 Sample #4														
447		30D	27.7	0.48	1.99	1.14		2.18		3.32	0.960208311	15	3.66	1.340149245	3.15084	5.76972
60	6/10/02 EPA Special	Batch #4 Sample #5	29.6	2.97	1.83	1.54	0.52	1.41	0.69	2.95	0 864002315	11.14	4.51	0.984073168	8.85918	4.2966
404	C/47/00/FBA 0:!-!	Batch #4 Sample #5	20.0	1.50	4.70	4.20	0.40	2.4	0.60	2.70	0.000450704	40.47				
138	6/17/02 EPA Special	07D Batch #4 Sample #5	29.6	1 68	. 1.73	1.39	0.49	2 4	0.68	3 79	0 838152731	10 _: 17	4.84	0.980051019	7.7748	4.21476
229	6/24/02 EPA Special	14D	29.6	3 08	1.49	1.19	0.43	3.07	0.58	4.26	0.72201108	11.9	5.06	1.048093507	8.61366	4.58304
	O/Z-//OZ El A Opcolar	Batch #4 Sample #5	25.0	0.00	1.43	1.13	0.43	3.07	. 0.50	4.20	0.7220 1 100	, ,,,,,	3.00	1.048093301	8.0,1300	4.363,04
336	7/1/02 EPA Special	21D :	29.6	0.17	2.64	0.62	0.79	3.91	1.06	4.53	1.322006051	13.07	5.23	1,164001718	5.85156	5.05362
		Batch #4 Sample #5				7.17							0.20	7,110,700,11,10	0.00100	5.5.5552
448	7/10/02:EPA Special	30D	29.6	1.54	2.82	1.86	0.82	1.8	1.06	3 66	1.340149245	11.19	5.58	1.022007828	1.24806	4.35798
61	6/10/02 EPA Special	Batch #5 Sample #1	23.5	4.33	2.1	2.25	0.6	2.26	0 78	4 51	0.984073168	14.91	6.05	1.436001393	-0.7161	6.01524
		Batch #5 Sample #1														
139	6/17/02 EPA Special	07D	23.5	3.8	2.06	1.71	0.58	3.13	0.79	4.84	0.980051019	11.59	4.5	0.970051545	-1.55496	4.11246
•	0/04/00/504.0	Batch #5 Sample #1	00.5	4.04	2.24	0.07		0.40								
230	6/24/02 EPA Special	14D Batch #5 Sample #1	23.5	4.21	2.24	2.87	0.64	2.19	0.83	5.06	1.048093507	11.57	6.26	1.056030303	-1.45266	4.43982
. 337	7/1/02 EPA Special	21D	23.5	2.86	2.47	2.14	0.7	3.09	0.93	5.23	1,164001718	9.09	5.46	0.840238062	6.58812	3.66234
	Trioz El A opcolar	Batch #5 Sample #1	25.5	2.00	2.41	2.14	0.7	3.03	. 0.55	3.23	1,104001718	5.05	3.40	0.840238062	0.36612	3.00234
449	7/10/02 EPA Special	30D	23.5	0.61	2.13	2.33	0.61	3.25	0.82	5 58	1.022007828	14.61	6.79	1.356023599	-2.53704	5.58558
62		Batch #5 Sample #2	22.9	-0.35	2.94	2.91	0.86	3.14		6.05	1.436001393	11.54	5.22	1.0020978	9.53436	4.33752
		Batch #5 Sample #2														
140	6/17/02 EPA Special	07D:	22.9	-0.76	2.01	2.56	0.59	1.94	0.77	4.5	0.970051545	12.04	4.19	1.074476617	7.161	4.8081
		Batch #5 Sample #2														
23	6/24/02 EPA Special	14D	22.9	-0.71	2,17	2.57	0 64	3.69	0.84	6.26	1 0560303 0 3	10.82	4.42	0.914002188	1.37082	3.84648
. 338	7/1/02 EPA Special	Batch #5 Sample #2	22.9	3.22	1.79	3.27	0.52	2.19	0.66	5.46	0 840238062	12.87	4.79	1.05	9.5139	4.62396
	771/02 LFA Special	Batch #5 Sample #2	24.5	3.22	1.75	3.21	. 0,32	. 2.19	0.00	3.40	0 040236002		4.79	1.05	9.5159	4.62396
450	7/10/02 EPA Special	30D	22.9	-1.24	2 73	2.66	0.82	4,13	1.08	6.79	1.356023599	10.68	4.84	0.910494371	-8.2863	3.82602
6		Batch #5 Sample #3	21.2	4.66	2 12	1.4	0.59	3.82	0.81	5.22	1 0020978	9.7	4.33	0.878009112	0.6138	3.74418
i i		Batch #5 Sample #3										* *		•		
14	6/17/02 EPA Special	07D	21.2	3 5	2.35	3.65	0.67	0.54	0.84	4.19	1.074476617	11.96	3.39	0.976165969	2.046	4.23522
		Batch #5 Sample #3														
23:	6/24/02 EPA Special	14D	21.2	-0.67	1.88	2.52	0.55	1.9	0.73	4.42	0.914002188	13.38	5.26	1.126143863	-5.07408	4.64442
: 33	7/1/02 EPA Special	Batch #5 Sample #3 21D	21.2	4.65	2.26	1.62	0.63	3.17	0.84	4 79	1.05	9.81	4.47	0.942019108	4 01016	4.01016
33.		Batch #5 Sample #3	21.2	4.00	2.20	1.02	0.03	5.17	0.04	473	1.03	3,01	7.77	0.342013100	401010	4.01010
. 45	1 7/10/02 EPA Special	-30D	21.2	-4.05	1.87	4.13	0.57	0 71	0 71	4 84	0.910494371	13.16	4.32	1.136001761	-8.53182	4.56258
. 6		Batch #5 Sample #4	21.1	0.3		2.63		1 7		4 33	0 878009112	11.63	5 46	1.070046728	6 60858	4.58304
		Batch #5 Sample #4														
. 14	6/17/02 EPA Special	07D	21.1	1	2.07	2.09	0.6	1.3	0.77	3.39	0 9761659 6 9	10 13	5 42	0.886002257	2 51658	3 76464
		Batch #5 Sample #4														
23	3 6/24/02 EPA Special	14D	21 1	-2.48	2.27	2.82	0.69	2.44	0.89	5 26	1.126143863	12.42	4.96	1.068269629	-3.70326	4.48074
24	2/1/02 EDA Special	:Batch #5 Sample #4 : 21D	21.1	1.96	1 96	2.83	0.57	1.64	0.75	4.47	0.042010100	11	5.26	0.039009634	-2.9667	3.8874
34	7/1/02 EPA Special	Batch #5 Sample #4	21.1	1.90	1 90	2.03	0 57	1.64	0.73	4.47	0.942019108	11	3.20	0.928008621	-2.9007	3.0074
45	7/10/02 EPA Special	30D	21 1	-4 17	2 23	2 09	0.68	2.23	0.91	4.32	1 136001761	12.74	4 11	1 118257573	6.62904	4 9104
6		Batch #5 Sample #5	21.8	3 23		2 19		3.27			1 070046728	48.4	190 85	6 510675848		29 95344
	. ,	Batch #5 Sample #5														
14	3 6/17/02 EPA Special	07D	21.8	1 23	1 84	2 38	0.53	3.04	0.71	5.42	0 886002257	72.64	192.77	9.72824753	-16.2657	45.48258

_									EPA Special								
		ile of Nutrani Samples			Weight	11.220	U-238	Th-232	Th-232	Ra-226	Ra-226	Total Radium	Total Dadium				
Samp ID	ie .	Sample Sample Date Group	Description		weight				Uncertainty			Activity	Total Radium Uncertainty				
		Daile Gloup	Batch #5 Sample #5			Activity	Oncertainty	Activity	oncertainty	Activity	Oncertainty	Activity	Oncertainty				
	234	6/24/02 EPA Special	14D Batch #5 Sample #5	21.8	-1.81	2.19	3.05	0 66	1.91	0.84	4 96	1.068269629	30.17	201.12	4.115349317	-56.2445	18.74136
. :	341	7/1/02 EPA Special	21D Batch #5 Sample #5	218	-1,45	1 9	2.04	0 56	3.22	0.74	5 26	0.928008621	48.37	197 09	6 532442116	-37.9942	30.44448
	453	7/10/02 EPA Special	30D	21.8	3.24	2 4	2.82	0.69	1 29	0.88	4 11	1.118257573	37 09	199 43	5.299528281	-53 4006	24.30648
	66	6/10/02 EPA Special	Batch #6 Sample #1 Batch #6 Sample #1	24.5	-48.75	14 64	138.33	4.17	52 52	5	190 85	6.510675848	51.95	164.29	7.353318979	-35.805	34.00452
	144	6/17/02 EPA Special	07D Batch #6 Sample #1	24.5	-7.95	22.23	138.27	6.22	54.5	7.48	192 77	9 72824753	44.36	148.95	5.932099123	-15.1813	27.98928
	235	6/24/02 EPA Special	14D Batch #6 Sample #1	24.5	-27.49	9.16	136.77	2 6	64 35	3.19	201.12	4.115349317	18.43	166.25	2.572353008	-61 9529	11.70312
	342	7/1/02 EPA Special	21D Batch #6 Sample #1	24.5	-18.57	14.88	140.59	4.18	56.5	5.02	197.09	6.532442116	33.46	162.8	4.564526262	-69.1753	21.09426
	454	7/10/02 EPA Special	;30D	24.5	-26.1	11.88	138.19	3.37	61.24		199.43	5 299528281	31.35	159.29	4.195771681	-55.8763	
i	67	6/10/02 EPA Special	Batch #6 Sample #2 Batch #6 Sample #2	24.4	-17.5	:	114.51	4.67	49.78		164.29	7.353318979	49.2	179.95	6.801683615	-36.3574	
	145		.07D Batch #6 Sample #2	24.4	-7.42		113.88	3.83	35.07		148.95	5.932099123	56.39	169.45	7.298109344	2.74164	
	236		:14D :Batch #6 Sample #2	24.4		5 72	116.79	1.63	49.46		166 25	2.572353008	44.37	184.21	5.855339444		26,76168
	343 455		:21D Batch #6 Sample #2 :30D	24.4		10.31 9.48	121,7 117.83	2.93	41.1 41.46	3.5 3.22	162.8 159 29	4.564526262 4.195771681	47.67	194.46: 176.79	6.458335699 5.113824401	-40.7563 -35.4981	29.7693 _. 23.69268
	68		Batch #6 Sample #3	25.2			121.13		58 82		179 95	6.801683615	41.3	175.45	5.574737662	-33.4361 -24.3883	25.9842
			Batch #6 Sample #3	-,			17 11/2		-	::=:		7,77,77,77,77					÷0.00.0
	146	6/17/02 EPA Special	07D Batch #6 Sample #3	25.2	1.34	16.79	123.33	4.68	46.12	5.6	169 45	7.298109344	62.66	172.47	8.570793429	39.16044	40.63356
	237	6/24/02 EPA Special	14D Batch #6 Sample #3	25.2	-21.76	13.08	127.9	3.71	56.31	. 4.53	184.21	5.855339444	29.08	176.3	4.080906762	-37.9942	18.55722
	344		21D Batch #6 Sample #3	25.2			135.82		58.64		194.46	6.458335699	36.65	175.2	4.851360634	-0.36828	
	456	7/10/02 EPA Special	.30D	25.2			124.61	3.26	52.18		176.79	5.113824401	29.48	180.39	4.190680136	-68.6638	19.2324
:	69		Batch #6 Sample #4 Batch #6 Sample #4	24.9	-11 92		126.06	3.56	49.39		175 45	5 574737662	30,38	163.06	4.156164097	-37.4213	
:	147		07D Batch #6 Sample #4	24.9	19.14 -18 57	19.86 9.07	122.02 117.39	5 48 2.57	50.45 58.91	:	172 47 176.3	8.570793429 4.080906762	70.6 30.22	179.9 180.59	9.305847624 4 004310178	-4.31706	
•	238: 345	6/24/02 EPA Special 7/1/02 EPA Special	14D Batch #6 Sample #4 21D	24.9	-16 57		122.38		52.82		175.2	4.851360634	44.14	176.63	5.796291918		26.55708
•	3 4 3 457	7/10/02 EPA Special	Batch #6 Sample #4	24.9	-33.56		128.29		52.62		180.39	4.190680136	42.87	184.96	6.072133068	-76.8068	
		6/10/02 EPA Special	Batch #6 Sample #5	23.6			115.17		47 89		163.06	4 156164097	29.31	78 33	3.532775113		16.28616
	70:	6/17/02 EPA Special	Batch #6 Sample #5 07D	23.6			121.78		58.12		179 9	9.305847624	13	4.33	1.25	3 35544	5 34006
	148 239	6/24/02 EPA Special	Batch #6 Sample #5	23.6			116.85		63.74			4 004310178		3.43	0.952102936	-3 31452	3 82602
	346		Batch #6 Sample #5	23.6			121.54		55.09			5 796291918	12.79	3.11	1.054371851	5 89248	4 41936
,	458	7/10/02 EPA Special	Batch #6 Sample #5	23.6			119 27		65 69					10 1	0 990202	-7 5702	4 1943
	78	6/11/02 EPA Special	Batch #7 Sample #1	29.8			3 47		3 45			0 956033472	and the second second	6 44	1 186001686	6.01524	5.09454
	268	6/25/02 EPA Special	Batch #7 Sample #1 14D	29.8			3.8		2.98			1.056030303		6.68	0.908019824	0.6138	3.7851
	_00	5,25,62 E epoold		20.0	, 51	2.23	3.0	0.04	2,30		3.70		,5.00	3.30		3.2.30	0001

								EPA Special								
•	File of Nutranl Samples															
	Sample Sample	Description	W	Veight	U-238	U-238	Th-232	Th-232	Ra-226	Ra-226		Total Radium				
ID	Date Group	D 4-1-47 C			Activity	Uncertainty	Activity	Uncertainty	Activity	Uncertainty	Activity	Uncertainty				
358	7/2/02 EPA Special	Batch #7 Sample #1 21D	29.8	2.89	2.52	3 36	0 72	2 87	0.94	6.23	1 184060809	12.06	E 20	1 0000000	12 44222	4 96049
. 336	172/02 EPA Special	Batch #7 Sample #1	25.0	2.09	2.32	3 30	0 72	201	0.94	0.23	1 164060609	12 06	5.38	1.09808925	12.11232	4.86948
464	7/11/02 EPA Special	30D	29.8	1.39	2.34	4.28	0.67	2.5	0 85	6.78	1.082312339	13.63	6.35	1.188107739	.1 08462	4.86948
. 404	77 1702 EFA Special	Batch #7 Sample	23.0	1.55	2.54	4.20	0.07	2.3	0 03	0.76	1.002312339	13.03	0.33	1.100107739	-1.90402	4.00940
168	6/18/02 EPA Special	#10 7D	29.8	2.18	3 2	3.33	0 92	3.23	1.19	6 56	1 504160896	13.51	6.38	1.16211015	0.83886	4.95132
79	6/11/02 EPA Special	Batch #7 Sample #2	28.6	2.94	2.49	2.31	0.71	4.13	0.95	6 44	1.186001686	9.68	5.91	0.834086326	4.68534	3.64188
, 5	o i i i o z i z i i i i o posicia	Batch #7 Sample #2				~	•		. 0.00	3 , ,	7.100001000	5.00	0.51	0.004000020	4.00004	3.04100
. 169	6/18/02 EPA Special	07D	28.6	0.41	2.42	3.16	0.71	3.22	0.92	6 38	1.16211015	12.75	7.11	1.1980818	1.67772	5.09454
103		Batch #7 Sample #2							_							
269	6/25/02 EPA Special	:14D	28.6	0.3	1.85	2.33	0.54	4.35	0.73	6.68	0.908019824	10.2	7.28	0.97800818	6.3426	4.17384
		Batch #7 Sample #2		•		•			**							
359	7/2/02 EPA Special	21D	28.6	5.92	2.38	3.03	0.67	2.35	0.87	5.38	1.09808925	13.12	7 15	1.242014493	-7.99986	5.09454
		Batch #7 Sample #2				•				•						
465	7/11/02 EPA Special	30D	28.6	-0.97	2.38	1.58	0.7	4.77	0.96	6.35	1.188107739	11.39	6.23	0.990202	-3.92832	4.13292
80	6/11/02 EPA Special	Batch #7 Sample #3	30.9	2.29	1.78	3.27	0.51	2.64	0.66	5.91	0 834086326	15.49	7.82	1.376117728	-8.83872	5.85156
		Batch #7 Sample #3									:					
170	6/18/02 EPA Special	07D	30.9	0.82	2.49	3.42	0.73	3.69	0.95	7 11	1.1980818	13.46	6.6	1.202538981	10.08678	5.27868
•		Batch #7 Sample #3														
270	6/25/02 EPA Special	-14D	30.9	3.1	2.04	3.02	0.59	4.26	0.78	7.28	0.97800818	12.51	7.78	1.146342008	3.31452	5.05362
		Batch #7 Sample #3		0.04						=						
360	7/2/02 EPA Special	21D	30.9	-3.91	2.49	3.82	0.75	3.33	0.99	7.15	1.242014493	13.29	8.86	1.310343466	3.10992	5.7288
400	7/44/00 EDA B	Batch #7 Sample #3	20.0	4.00	0.00	2.52	0.04	2.74	0.70	6.00	2.000000	44.04	- 4-	4.040740000	0.70440	4.5040
466	7/11/02 EPA Special	30D	30.9	-1.92	2.02	3.52	0.61	2.71	0.78	6.23	0.990202	11.31	7.45	1.016710382	2.72118;	4.5012
81	6/11/02 EPA Special	Batch #7 Sample #4 Batch #7 Sample #4	29	-4.32	2 86	5.18	0.84	2.64	1.09	7 82	1.376117728	12.09	6	1.084066419	-1.96416	4.54212
171	6/18/02 EPA Special	07D	29	4.93	2.58	3.74	0.75	2.86	0.94	6.6	1 202538981	12.15	5.93	1.178006791	10.96426	E 11E
	0/10/02 EFA Special	Batch #7 Sample #4	. 23	4.33	2.30	3.74	0.73	2.50	. 0.54	0.0	1 505320301	12.13	5.33	1.176000791	10.00420	5.115
271	6/25/02 EPA Special	14D	29	1.62	2 47	5.04	0.71	2.74	0.9	7.78	1.146342008	10.21	5.64	0.942019108	6.71088	4.07154
, . / / ! .	0/25/02 Lt A opecial	Batch #7 Sample #4	23	1.02	2 41	3.04	0.71	2.74		7.70	1.140342000	10.21	. 3.04	0.542015100	0.71000	4.07.134
: 361	7/2/02 EPA Special	21D	29	1.52	2.8	5.52	0.81	3.34	1.03	8.86	1.310343466	10.94	6.19	0.970051545	-1 59588	4.17384
		Batch #7 Sample #4				5.52	•					. 10.0		4.57,000,1010		
467	7/11/02 EPA Special	.30D	29	1.33	2.2	5.43	0.64	2.02	0.79	7.45	1.016710382	14.11	4.33	1.130707743	0.98208	4.93086
. 82	6/11/02 EPA Special	Batch #7 Sample #5	29.1	-0 96	2.22	2.86		3,14	0 86	6	1 084066419	17.08	33.23	1.878776197	1.6368	8.40906
		Batch #7 Sample #5														
172	6/18/02 EPA Special	07D	29.1	5.31	2 5	2.56	0.71	3.37	0 94	5 93	1.178006791	18.66·	34.62	2.09117192	-8.10216	9.35022
		Batch #7 Sample #5														
272	6/25/02 EPA Special	14D	29.1	3 28	1.99	2.97	0 57	2.67	0 75	5 64	0.942019108	19.9	32.34	2.16778689	9.75942	9.8208
		Batch #7 Sample #5														
362	7/2/02 EPA Special		29.1	-0.78	2.04	3.52	0.59	2.67	0.77	6 19	0.970051545	18 16 _.	33.99	2.048999756	-1 18668	9.14562
		Batch #7 Sample #5														
468	7/11/02 EPA Special	30D	29.1	0.48		3.02		1.31	0.88	4 33	1.130707743	13.05	38.25	1.466492414		6.48582
83	6/11/02 EPA Special	Batch #8 Sample #1	30.7	0.8	4,11	22.01	1.17	11.22	1.47	33 23	1 878776197	16.54	34.26	2.020890893	-1.82094	8.98194
	C/40/00 EDA C : 1	Batch #8 Sample #1	20.7	2.00		00.44	4.04	40.40	4.00	24.60	2 22447422	40.04	20.00	0.004000004	40.0	0.40545
. 173	6/18/02 EPA Special	.07D	30.7	-3.96	4.57	22.14	1.31	12.48	1.63	34 62	2 09117192	18.34	36.96	2.084922061	-16.9	9.12516
: 272	CIDEIOS EDA Casaial	Batch #8 Sample #1 .	. 20.7	4 77	4.0	20.4	1 27	11.04	1.60	22.24	0 16770600	17.04	27.75	2 144411241	6 26076	0.47200
273	6/25/02 EPA Special	14D Batch #8 Sample #1	30.7	4 77	4 8	20.4	1 37	11.94	1.68	32.34	2.16778689	17.84	37.75	2.144411341	6.26076	9.47298
. 262	7/2/02 EPA Special	· ·	30.7	-0 58	4.47	20.09	1.28	13 9	1.6	33 99	2.048999756	18.39	37.24	2.113030998	0.98208	9.32976
. 363	TIZIUZ LEM Special	Batch #8 Sample #1	JU. 1	-0 36	4.47	20.09	1.20	139	1.0	22 99	0C16880PO.3	10.39	31.44	2.113030330	0.30200	3.32310
469	7/11/02 EPA Special	30D	30.7	-0 48	3,17	21 96	0,91	16.29	1 15	38 25	1.466492414	16.87	37.64	1.980403999	19 92804	8.9001
409	6/11/02 EPA Special	Batch #8 Sample #2	31.8	-0.89		21.83		12.43				15.93	37.77	1.850675552	7.40652	8.20446
04	S., I/OZ El // Opooldi	Batch #8 Sample #2	5.0	0.00	7 33	, , , , ,	. 70	,	. 50		5.02000000		5.,.,			20
174	6/18/02 EPA Special		31 8	-8 26	4,46	22 61	13	14.35	1 63	36 96	2 084922061	17 63	37.72	2.114639449	8.9001	9.43206
•••			-				. •		. 30	30		55				

Complete	File of Nutrani Samples	5						•								
•	Sample Sample	Description		Weight		U-238	Th-232	Th-232	Ra-226	Ra-226	Total Radium	Total Radium				
1D	Date Group				Activity	Uncertainty	Activity	Uncertainty	Activity	Uncertainty	Activity	Uncertainty				
27	GOEIOO EDA Casalal	Batch #8 Sample #2	31.8	3 06	4 63	20,06	1 32	17.69	1.69	37.75	2 144411241	17 70	20.45	2.079704540	4.0025	0.24702
274	6/25/02 EPA Special	14D Batch #8 Sample #2	31.0	3 00	4 03	20.00	1 52	17.09	1.05	31.13	2.144411341	17.73	39.15	2.078701518	-4.6035	9.24792
364	7/2/02 EPA Special	21D	31.8	0 48	4.56	22.37	1 32	14.87	1.65	37 24	2.113030998	12 25	38.59	1.338431918	-6 05616	5.91294
30-	172702 El A opecial	Batch #8 Sample #2	31.0	V -7.c.	1.00	22.07	1 32	11.07	1.00	37 24	2.113030330	12 23	30.33	1.550451516	-0 03010	3.31234
470	7/11/02 EPA Special	30D	31.8	9 74	4 35	20.44	1 22	17.2	1 56	37 64	1.980403999	11.94	38.84	1.388416364	-1.5345	6.09708
85		Batch #8 Sample #3	32.5	3 62	4 0 1	21.16	1 15		1 45	37 77	1.850675552	15.61	34.99	1.792874786	-13 565	7 89756
		Batch #8 Sample #3														
175	6/18/02 EPA Special	07D	32 5	4.35	4 6 1	21.43	1 31	16.29	1.66	37.72	2.114639449	22.03	35.89	2.553448648	-6.66996	11.37576
		Batch #8 Sample #3														
275	6/25/02 EPA Special	14D	32.5	-2.25	4.52	23.81	1.29	15.34	1.63	39.15	2.078701518	16 82	37.22	2.122498528	14.5266	9.59574
		Batch #8 Sample #3														
36	7/2/02 EPA Special	21D	32.5	-2.96	2.89	22.71	0.83	15.88	1.05	38.59	1.338431918	21.27	37.15	2.411327435	-4.13292	10.68012
		Batch #8 Sample #3														-
47		30D	32.5	-0.75	2.98	22.29	0.86	16.55		38.84	1.388416364	16.45	34.7	1.878776197	-0.9207	8.34768
86	6/11/02 EPA Special	Batch #8 Sample #4	32.1	-6.63	3.86	22.54	1 12	12.45	1.4	34.99	1.792874786	17.12	33.95	1.975702407	0.34782	8.85918
476	6 6/18/02 EPA Special	Batch #8 Sample #4 07D	32.1	-3.26	5.56.	21.86	1.6	14.03	1.99	35.89	2.553448648	17.18	33.98	1.878776197	3.60096	8.42952
176	or to/uz CFA Special	Batch #8 Sample #4	32.1	-3.20	3,30.	21,00	1.0	14.05	1.33	55.05	2.333446646	11.10	33.50	1.010110,191	3,000,30	0.42332
276	6/25/02 EPA Special	14D	32.1	7.1	4.69	22.03	1.31	15.19	1.67	37.22	2.122498528	15.6	34.88	1.828797419	13 27854	8.24538
	,	Batch #8 Sample #4	0.2			22,00					22200020		0,1.00		10.2700	
366	7/2/02 EPA Special	21D	32.1	-2.02	5.22	22.76	1 51	14.39	1.88	37.15	2.411327435	17.42	37.64	2.063055986	11 68266	9.32976
		Batch #8 Sample #4														
47	7/11/02 EPA Special	30D	32.1	-0.45	4.08	20.67	1 17	14.03	1.47	34.7	1.878776197	15.35	36.79	1.808535319	-4.95132	7.89756
8	6/11/02 EPA Special	Batch #8 Sample #5	31.3	0 17	4.33	22.9	1.25	11.05	. 1.53	33.95	1.975702407	10.75	8.1	0.93236259	-1.28898	4.01016
		Batch #8 Sample #5							:							
17	7 6/18/02 EPA Special	07D	31.3	1 76	4.12	20.24	1.17	13 74	1.47	33.98	1.878776197	12.07	-0.35	0.958018789	-3.35544	3.7851
	6/25/02 EPA Special	Batch #8 Sample #5 14D	31.3	6 49	4.03	20.39	1.14	14,49	: 1.43	34.88	1.828797419	35.28	51.65	4.208004278	25 14534	18 50814
27	6/23/02 EPA Special	Batch #8 Sample #5	31.3	0 49	. 4.03	20.39	. 1.1**	14,45	: 1.45	34.00	1.020191419	35.20	31.03	4.200004278	23.14334	18.53814
36	7 7/2/02 EPA Special		31.3	5 71	4 56	22.45	1.29	15.19	1.61	37.64	2.063055986	22.99	36.99	2.6337236	8 32722	12.29646
	:::::::::::::::::::::::::::::::::	Batch #8 Sample #5														
47	3 7/11/02 EPA Special	30D	31.3	-2.42	3.86	21.4	1.12	15.39	1.42	36.79	1.808535319	15.73	9.41	1.662077014	10.06632	7.3656
: 10:	2 6/12/02 EPA Special	Batch #9 Sample #1	32.3	4 89	2.98	7.93	0.85	4.77	1.07	12.7	1.366528448	9.23	10,17	0.868331734	0 73656	3.76464
i i	:	Batch #9 Sample #1														
18	6/19/02 EPA Special	07D	32.3	-0.3	3.44	9.15	0.99	5	1 23	14.15	1.578923684	17.45	9.71	1.708566651	5.5242	7.44744
		Batch #9 Sample #1			2.27	10.50		2.22		10.01	4 40500 4504	42.04		4.05.4400000	0.0047	F 46222
28	4 6/26/02 EPA Special	·14D : Batch #9 Sample #1	32.3	1.35	3.27	10.58	0.94	3,33	1.15	13.91	1.485294584	13.84	9.5	1.254192968	8.0817	5.46282
37	7/3/02 EPA Special	21D	32.3	5 72	3.17	8.68	0.9	4.91	1.12	13.59	1.436802004	13.12	9.6	1.188486432	0.77748	5.13546
	4 Moroz El A opecial	Batch #9 Sample #1	32.3	J 12	3.11	0.00	0.5	4.51	1.12	10.00	1.400002004	10.12	3.0		0.177.10	00010
48	7 7/12/02 EPA Special	30D	32.2	-2 32	3.02	10	0 88	3.26	1.08	13.26	1.393125981	12.83	9.3	1.280624847	8 26584	5.79018
10		Batch #9 Sample #2	32.8	0 36	1 84	6.35	0.54	3.82	0.68	10.17	0.868331734	17 4	12.47	1.660271062	6.07662	7.20192
		Batch #9 Sample #2						• •			•					
18	7 6/19/02 EPA Special	07D	32.8	2 7	3.64	5.1	1.06	4.61	1.34	9 71	1 708566651	13 97	10.88	1.352479205	13 44222	6 11754
		Batch #9 Sample #2														
28	5 6/26/02 EPA Special	14D	32.8	3 95	2.67	4.98	0 77	4.52	0.99	9.5	1.254192968	16.27	10.62	1.596245595	18.53676	7.2633
	7/2/02 EDA C	Batch #9 Sample #2	22.0	0.20	2.54	5.70	0.74	2.02	0.00	0.0	1 100 400 422	12.00	11 77	1 20044000	5 97432	5.70834
37	5 7/3/02 EPA Special	21D Batch #9 Sample #2	. 32.8	0.38	2 51	5.78	0.74	3.82	0 93	9 6	1 188486432	12.99	11 77	1.28844868	J 9/432	3.10034
48	8 7/12/02 EPA Special	•	32 8	4.04	2.83	6.72	0.8	2.58	1	9.3	1.280624847	7.67	12 62	0.804300939	0.45012	3.53958
10	i,		33.9	2 97						12 47	1 660271062		11.64	1 448067678	-9.207	5 95386
		Batch #9 Sample #3				5.00	. 32									
18	8 6/19/02 EPA Special	07D	33 9	6 57	2 99	6.91	0 84	3.97	1.06	10 88	1 352479205	14	11 17	1 354178718	10.18908	6.01524

									LEA Special								
Complete F	File of Nutr	ani Samples	S														
Sample ID	Sample Date	Sample Group	Description	V	-	U-238 Activity	U-238 Uncertainty	Th-232	Th-232	Ra-226	Ra-226	Total Radium Activity	Total Radium Uncertainty				
10	Date	Group	Batch #9 Sample #3			Activity	Officertaility	Activity	Oncertainty	Activity	Oncertainty	Activity	Uncertainty				
286	6/26/02 E	PA Special	14D	33.9	9 06	3.55	5.65	0 98	4.97	1.26	10.62	1 596245595	14 49	11.09	1.466492414	-14.9358	6.17892
			Batch #9 Sample #3														
376	7/3/02 E	PA Special	21D	33.9	2.92	2.79	6 81	0.8	4.96	1 01	11.77	1 28844868	11 03	10.85	1.096357606	-2.39382	4.74672
			Batch #9 Sample #3														
489:		PA Special	30D	33.9	0 22	1.73	8.8	0.5	3.82		12.62	0.804300939	13 87	9.38	1.224418229	9.96402	5.40144
105		EPA Special	Batch #9 Sample #4 Batch #9 Sample #4		-4.5	2.91	5.11	0 88	6.53	1.15	11.64	1.448067678	12.3	11.87	1.190168055	1 90278	5.13546
189	6/19/02 E	PA Special	07D Batch #9 Sample #4	32.1	4.98	2.94	6.22	0.83	4.95	1.07	11.17	1.354178718	18.99	11.85	1.899078724	3.19176	8.42952
				32.1	-7.3	3.02	7.62	0.91	3.47	1.15	11.09	1,466492414	14.34	13.15	1,432236014	14.9358	6.48582
377	7/3/02 E	PA Special	¹ 21D	32.1	1.17	2.32	6.98	0.68	3.87	0.86	10 85	1.096357606	19.37	13.76	1.84805303	3.76464	7.93848
400:	7/40/02 5	DA Cassial	Batch #9 Sample #4	22.1	4.87	2.64	4.69	0.76	4.00	0.00	0.20	4 224410220	40.07	42.54	4 220252	4 75050	F 70070
		PA Special		. 32.1 .26.E	0.93	2.51	6.73		4 69		9.38	1.224418229	12.67		1.33225373		5.76972
106	6/12/02		Batch #9 Sample #5 Batch #9 Sample #5		0.93	2.51	6.73	0.73	5.14	0.94	11 87	1.190168055	9.68	0.64	0.810246876	5,115	3.31452
			07D Batch #9 Sample #5		1.56	4.12	7.27	1.19	4.58	. 1 48	11.85	1.899078724	1635.57	3468.64	231.6560176	-3227.5	1022.795
288	6/26/02 E	PA Special	14D	36.5	7.3	3.17	6.96	0.88	6 19	1.13	13.15	1.432236014	22.28	21.55	2.359872878	14.60844.	10.80288
378	7/3/02 E	PA Special	14D Batch #9 Sample #5 21D Batch #9 Sample #5	36.5	1.84	3.88	5.88	1.12	7.88	1.47	13 76	1,84805303	21.52	14.37	2.202294258	0.1023	9.24792
491	7/12/02 E	PA Special	30D	36.5	0.86	2.82	7.1	0.82	6.84	1.05	13 94	1 33225373	14.22	4.36	1.180042372	6.21984	5.05362



NUTRANL

Chronological Order

N	utranl Gamma	Spec Report-	341 East	Ohio S	treet Sit	e										
I											-· ·					
	Complete File of N	utrani Samples														
Sample	Sample Sample		Weight	U-238	U-238	Th-232	Th-232	Ra-226	Ra-226	Total Radium	Total Radium			_		
ID	Date Group			Activity	Uncertainty	Activity	Uncertainty		Uncertainty	Activity	Uncertainty					
28	6/6/02 soil standa		36.9	0.2	3.28		0.97	3.83	1.23		1.566460979	14.41	-0.07	1.180042	9.04332	5.0127
29	6/6/02 background		7.5	4.42	2.45		0.7		0.95		1.180042372	18.12		1.666433	19.58022	7.7748
30	6/6/02 soil standa	d soilstd060602	36.9	9.57	38	4 55	1.03	1.11	1.31	5.66	1.666433317	22.44	6.98	2.098976	6.05616	9.24792
31	6/6/02 soil standa		36.9	2.96	4.52		1.31	1.85	1.64		2.098975941	17.82		1.672633	-5.97432	7.2633
32	6/6/02 soil standa		36.9	-2.92	3.55		1.04		1.31		1.672632655	5.42			1.04346	2.18922
33	6/6/02 soil standa		36.9	0.51	1.07		0.31	2.42	0.39		0.498196748	13.81	-0.26	1.032279	-3.94878	4.17384
34	6/7/02 background		7.5	-1.93	2.04		0.6		0.84		1.032279032	18.32		1.794492	-11.8259	7.44744
35	6/7/02 soil standa	rd soilstd060702	36.9	-5.78	3.64	6.97	1.11	3.28	1.41	10.25	1.794491571	40.31	165.24	5.537192	-101.175	25.75914
36	6/7/02 exclusion z	one S1001 A.75-5	28.9	-49.45	12.59	146.36	3.62	18.88	4.19	165.24	5.537192429	54.62	159.83	7.138242	-93.0725	33.43164
37	6/7/02 exclusion 2	one S1002 B-4.5 Batch #1 Sample	28	-45.49	16.34	141.46	4.68	18.37	5.39	159.83	7.138242081	31.72	155.89	4.159062	-50.7613	18.3117
38	6/7/02 EPA Speci	al #1 Batch #1 Sample	21.7	-24.81	8.95	86.72	2.57	69.17	3.27	155.89	4.159062394	43.67	161	5.894065	-34.6183	26.47524
39	6/7/02 EPA Specia	al #2 Batch #1 Sample	20.3	-16.92	12.94	96.26	3.66	64.74	4.62	161	5.894064811	37.28	177.99	5.238091	-36.6848	23.4267
40	6/7/02 EPA Speci	al #3 Batch #1 Sample	21.6	-17.93	11.45	108.06	3.26	69.93	4.1	177.99	5.238091255	26.08	103.39	3.379601	-29.2578	15.07902
41	6/7/02 EPA Speci.	al #4 Batch #1 Sample	21.9	-14.3	7.37	64.44	2.11	38.95	2.64	103.39	3.379600568	35.72	190.28	4.882008	-79.9372	21.64668
42	6/7/02 EPA Speci	al #5 Batch #2 Sample	21.5	-39.07	10.58		3.04		3.82	190.28	4.882007784	10.61	6.49	0.992018	-3.15084	4.07154
43	6/7/02 EPA Speci:	Batch #2 Sample	27.8	-1.54	1.99		0.6		0.79		0.992018145	13.12	-	1,194738		5.40144
44	6/7/02 EPA Speci	Batch #2 Sample	27.8	5.24	2.64		0.75		0.93		1.194738465	10.65		0.934077	-0.6138	3.94878
45	6/7/02 EPA Speci	Batch #2 Sample	27.2		1.93		0.57		0.74		0.934077085	13.61		1.236002	3.39636	5.19684
46	6/7/02 EPA Speci	Batch #2 Sample	26.7	1.66	2.54		0.74		0.99		1.236001618	10.02		0.91214	2.18922	3.92832
47	6/7/02 EPA Speci	al #5	28.5	1.07	1.92	3.41	0.56	3.45	0.72	0.80	0.91214034	10.75	10.53	,	-1.98462	4.17384
48	6/7/02 exclusion z	one S1013 C.2-3.5 Batch #3 Sample	19.8	-0.97	2.04	3.77	0.6	6.76	8.0	10.53	1	11.71	4.04	0.992018	-5.44236	3.9897
49	6/7/02 EPA Speci	al #1 Batch #3 Sample	28.3	-2.66	1.95	1.36	0.6	2.68	0.79	4.04	0.992018145	12.49	2.88	1,170043	2.2506	4.88994
50	6/7/02 EPA Speci	al #2 Batch #3 Sample	28	1.1	2.39	1.79	0.71	1.09	0.93	2.88	1.170042734	10.85	2.63	0.878009	1.5345	3.74418
51	6/7/02 EPA Speci	al #3 Batch #3 Sample	27	0.75	1.83		0.53		0.7		0.878009112			0.970052	1.45266	4.092
52	6/7/02 EPA Speci	Batch #3 Sample	28.6	0.71	2		0.59		0.77		0.970051545				7.161	3.02808
53	6/7/02 EPA Speci		28.9	3.5	1.48		0.41		0.57		0.702139587	11.24		0.966075	-0.06138	3.86694
54	6/10/02 background		7.5	-0.03	1.89		0.57		0.78		0.966074531	10.68			4.01016	4.2966
55	6/10/02 soil standa	Batch #4 Sample	36.9	1.96	2.1		0.6		0.75		0.960468636		3.98	1.05603	-0.5115	4.37844
56	6/10/02 EPA Speci	Batch #4 Sample	27	-0.25	2.14		0.64		0.84		1.056030303	13.8			5.25822	5.15592
57	6/10/02 EPA Speci	Batch #4 Sample	28.9	2 57	2.52		0 72		0.95		1.192015101	12 76		1.158016	5.34006	4.86948
58	6/10/02 EPA Speci	al #3	29.2	2.61	2.38	1.31	0.69	2.27	0.93	3.58	1.158015544	10.84	2.91	0.986002	1.10484	4.1943

I	utranl G	amma S	pec Report-	341 East	Ohio S	treet Sit	е									$$ \neg	
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	Complete	File of Nutra	ani Samples					****************	l								
Sample	Sample	Sample	Description	Weight	U-238	U-238	Th-232	Th-232	Ra-226	Ra-226	Total Radium	Total Radium					
ID	Date	Group			Activity	Uncertainty	Activity	Uncertainty	Activity	Uncertainty	Activity	Uncertainty					
			Batch #4 Sample														
59	6/10/02 E	EPA Special	#4 Batch #4 Sample	27.7	0.54	2.05	1.65	0.59	1.26	0.79	2.91	0.986002028	10.38	2.95	0.864002	6.07662	3.74418
60	6/10/02 E	EPA Special	#5	29.6	2.97	1.83	1.54	0.52	1.41	0.69	2.95	0.864002315	11.14	4.51	0.984073	8.85918	4.2966
		•	Batch #5 Sample														
61	6/10/02 E	EPA Special	#1 Batch #5 Sample	23.5	4.33	2.1	2.25	0.6	2.26	0.78	4.51	0.984073168	14.91	6.05	1.436001	-0.7161	6.01524
62	6/10/02 E	EPA Special	#2	22.9	-0.35	2.94	2.91	0.86	3.14	1.15	6.05	1.436001393	11.54	5.22	1.002098	9.53436	4.33752
1		•	Batch #5 Sample														
63	6/10/02 E	EPA Special	#3	21.2	4.66	2.12	1.4	0.59	3.82	0.81	5.22	1.0020978	9.7	4.33	0.878009	0.6138	3.74418
64	6/10/02 F	EPA Special	Batch #5 Sample #4	21.1	0.3	1.83	2.63	0.53	1.7	0.7	4 33	0.878009112	11.63	5 46	1.070047	6.60858	4.58304
•	5. 15, 52		Batch #5 Sample		• • •					,	7.00	0.0.0000.72		0.10		0.00000	
65	6/10/02 E	EPA Special	#5	21.8	3.23	2.24	2.19	0.65	3.27	0.85	5.46	1.070046728	48.4	190.85	6.510676	-99.7425	29.95344
66	6/10/02 F	EPA Special	Batch #6 Sample #1	24.5	-48.75	14.64	138.33	4.17	52.52	5	190.85	6.510675848	51.95	164 29	7.353319	-35.805	34.00452
"	0/10/02 2	_i /i opeoiai	Batch #6 Sample	L4.0	40.70	14.04	100.00	-4.17	02.02	J	100.00	0.010073040	31.03	104.23	7.000013	-55.005	34.00432
67	6/10/02 E	EPA Special	#2	24.4	-17.5	16.62	114.51	4.67	49.78	5.68	164.29	7.353318979	49.2	179.95	6.801684	-36.3574	31.18104
68	6/10/02 F	EPA Special	Batch #6 Sample #3	25.2	-17.77	15.24	121.13	4.3	58.82	5.27	170.05	6.801683615	41.3	175.45	5.574738	-24.3883	25.9842
"	0/10/02 1	_i A Special	Batch #6 Sample	23.2	*17.77	13.24	121.10	4.0	30.02	5.27	179.93	0.001003013	41.5	173.43	3.374736	-24.3003	20.9042
69	6/10/02 E	EPA Special	#4	24.9	-11.92	12.7	126.06	3.56	49.39	4.29	175.45	5.574737662	30.38	163.06	4.156164	-37.4213	19.04826
70	6/10/02 5	EPA Special	Batch #6 Sample #5	23.6	-18.29	9.31	115.17	2.64	47.89	3.21	162.06	4.156164097	29.31	70 22	3.532775	2 20069	16.28616
/0	0/10/02 6	Er A Special	#3	23.0	-10.29	9.31	115.17	2.04	47.09	3.21	163.06	4.136164097	29.31	10.33	3.532775	2.20900	10.20010
71	6/10/02 €	exclusion zone	S1034 B.5-5.75	17	1.08	7.96		2.23	24.35	2.74		3.532775113	14.72	0.67	1.080046	-9.98448	4.092
72		packground	bkg061102	7.5	-4.88	2		0.64		0.87		1.080046295	12.97	9.49		-0.32736	5.29914
73	6/11/02 s	soil standard	soilstd061102	36.9	-0.16	2.59	5.16	0.76	4.33	1	9.49	1.256025477	17.9	3.51	1.560288	6.40398	6.83364
74	6/11/02 F	Pre FPA	B-4.5 Pre-EPA #1	22.8	3.13	3.34	1.98	0.96	1.53	1.23	3 51	1.560288435	15.94	6.02	1.370036	-14.7517	5.46282
''	J/ 1 1/ 02 1		B-4.5 Pre-EPA	22.0	0.10	0.01		0.00	1.00	0	0.01			0.02		,,	00202
75	6/11/02 F	Pre EPA	#2	24.6	-7.21	2.67	2.95	0.83	3.07	1.09	6.02	1.370036496	19.13	5.15	1.652059	9.45252	7.07916
76	6/11/02 F	Pro EDA	B-4.5 Pre-EPA #3	21.8	4.62	3.46	1.42	0.98	3.73	1.33	5.15	1.652059321	15.37	3.8	1.254193	-1.75956	5.3196
"	0/11/021	IGLIA	B-4.5 Pre-EPA	21.0	4.02	0.40	1.42	0.50	3.70	1.00	5.10	1.002000021	10.07	0.0	1.204100	1.70000	0.0100
77	6/11/02 F	Pre EPA	#4	26.8	-0.86	2.6	2.56	0.77	1.24	0.99	3.8	1.254192968	10.43	6.92	0.956033	4.1943	4.13292
78	6/11/02	EPA Special	Batch #7 Sample #1	29.8	2.05	2.02	3.47	0.58	3.45	0.76	6.02	0.956033472	13.03	6.44	1.186002	6.01524	5.09454
/ "	0/11/02	EFA Special	Batch #7 Sample	29.0	2.00	2.02	3.41	0.56	3,43	0.70	0.92	0.930033472	13.03	0.44	1.100002	0.01324	3.03434
79	6/11/02 E	EPA Special	#2	28.6	2.94	2.49	2.31	0.71	4.13	0.95	6.44	1.186001686	9.68	5.91	0.834086	4.68534	3.64188
	0/14/00 [EDA Caralal	Batch #7 Sample	00.0	0.00	4.70	0.07	0.51	0.64	0.00	F 0.4	0.004000000	15.40	7.00	1 070110	0.00070	5.05150
80	6/11/02	EPA Special	#3 Batch #7 Sample	30.9	2.29	1.78	3.27	0.51	2.64	0.66	5.91	0.834086326	15.49	7.82	1.376118	-8.83872	5.85156
81	6/11/02 E	EPA Special	#4	29	-4.32	2.86	5.18	0.84	2.64	1.09	7.82	1.376117728	12.09	6	1.084066	-1.96416	4.54212
	C/4.4/00 [EDA Ci-l	Batch #7 Sample	00.4	0.00	0.00		0.00		0.00		1 00 1000 110	47.00	20.00	4.070770	4.0000	0.40000
82	6/11/02 E	EPA Special	#5 Batch #8 Sample	29.1	-0.96	2.22	2.86	0.66	3.14	0.86	6	1.084066419	17.08	33.23	1.878776	1.6368	8.40906
83	6/11/02 E	EPA Special	#1	30.7.	0.8	4.11	22.01	1.17	11.22	1.47	33.23	1.878776197	16.54	34.26	2.020891	-1.82094	8.98194
	24467	ED4 0 1-1	Batch #8 Sample							,			4=6=			- 100==	00011
84	6/11/02 E	EPA Special	#2 Batch #8 Sample	31.8	-0.89	4.39	21.83	1.26	12.43	1.58	34.26	2 020890893	15.93	37.77	1.850676	7 40652	8.20446
85	6/11/02 E	EPA Special	#3	32.5	3.62	4.01	21.16	1.15	16.61	1.45	37.77	1.850675552	15.61	34.99	1.792875	-13.565	7.89756

Nutranl Gamma Spec Report- 341 East Ohio Street Site Complete File of Nutrani Samples Sample Sample Sample Description Weight U-238 U-238 Th-232 Th-232 Ra-226 Ra-226 Total Radium Total Radium ID Date Activity **Activity** Uncertainty **Activity** Uncertainty Activity Group Uncertainty Uncertainty Batch #8 Sample 6/11/02 EPA Special 32.1 -6.63 3.86 22.54 12.45 86 #4 1.12 1.4 34.99 1.792874786 17.12 33.95 1.975702 0.34782 8.85918 Batch #8 Sample 22.9 87 6/11/02 EPA Special 31.3 0.17 4.33 1.25 11.05 1.53 33.95 1.975702407 10.75 8.1 0.932363 -1.28898 4.01016 88 6/11/02 exclusion zone S1049 B.5-9 30.1 -0.631.96 4.57 0.58 3.53 0.73 0.93236259 10.49 3.98 0.95 3.29406 3.9897 8.1 S1050 B-8.5 2.12 89 6/11/02 EPA EPA #1 36.5 1 61 1.95 0.57 1.86 0.76 3.98 0.95 11.25 7.42 1.026158 6.05616 4.5012 S1051 B-8.5 90 EPA#2 34.1 2.96 2.2 4.44 0.63 2.98 0.81 7.42 1.026157883 12.81 3.57 1.108016 3.60096 6/11/02 EPA 4.7058 S1052 B-8.5 EPA #3 1.76 2.3 1.14 2.43 6.83364 91 6/11/02 EPA 34.4 0.66 0.89 3.57 1.108016245 11.33 4.01 0.994032 4.23522 S1053 B-8.5 92 EPA#4 35.2 3.34 2.07 1.58 0.59 2.43 8.0 4.01 0.994032193 14.51 3.01 1.184061 10.9461 5.3196 6/11/02 EPA S1054 B-8.5 93 6/11/02 EPA EPA#5 35.7 5.35 2.6 1.33 0.72 1.68 0.94 3.01 1.184060809 9.79 5.49 0.920054 3.23268 3.84648 S1055 A-B/2-6 EPA #1 2.24 94 6/11/02 EPA 25.8 1.58 1.88 0.56 3.25 0.73 5.49 0.920054346 11.99 4.97 1.008018 4.31706 4.33752 S1056 A-B/2-6 EPA #2 95 6/11/02 EPA 26.9 2.11 2.12 1.8 0.6 3.17 0.81 4.97 1.008017857 10.68 6.13 1.086002 5.17638 4.66488 S1057 A-B/2-6 EPA#3 2.53 3.44 -1.61634 96 6/11/02 EPA 28.3 2.28 0.65 2.69 0.87 6.13 1.086001842 12.17 5.37 1.05603 4.33752 S1058 A-B/2-6 27.1 -0.79 2.11 5.37 1.056030303 13.95 5.58558 97 EPA#4 2.12 0.64 3.26 0.84 4.49 1.212106 5.17638 6/11/02 EPA S1059 A-B/2-6 98 6/11/02 EPA EPA#5 25.3 2.73 2.53 1.74 0.74 2.75 0.96 4.49 1.212105606 17.73 -0.17 1.434503 4.6035 5.9334 99 bkg061202 7.5 2.25 2.9 -1.05 0.83 0.88 1 17 -0.17 1.434503398 16.46 9.31 1.666433 -2.10738 7.12008 6/12/02 background soilstd061202 3.48 6.34 2.97 9.31 1.666433317 41.96 289.18 -74.147 27.2118 100 6/12/02 soil standard 36.9 -1.031.03 1.31 5.887147 101 6/12/02 exclusion zone S1060 D-5.5 32.7 -36.2413.3 207.42 3.76 81.76 4.53 289.18 5.887147017 13.87 12.7 1.366528 10.00494 6.09708 Batch#9 0.73656 102 6/12/02 EPA Special Sample#1 32.3 4.89 2.98 7.93 0.85 4.77 1.07 12.7 1.366528448 9.23 10.17 0.868332 3.76464 Batch#9 103 6/12/02 EPA Special Sample#2 32.8 0.36 1.84 6.35 0.54 3.82 0.68 10.17 0.868331734 17.4 12.47 1.660271 6.07662 7.20192 Batch#9 104 6/12/02 EPA Special Sample#3 33.9 2.97 3.52 6.89 1.02 5.58 1.31 12.47 1.660271062 15.31 11.64 1.448068 -9.2075.95386 Batch#9 6/12/02 EPA Special -4.5 5.11 6.53 11.64 1.448067678 11.87 1.190168 1.90278 5.13546 105 Sample#4 32.1 2.91 88.0 1.15 12.3 Batch#9 0.93 6.73 0.94 9.68 0.64 0.810247 5.115 106 6/12/02 EPA Special 2.51 0.73 5.14 11.87 1.190168055 3.31452 Sample#5 36.5 107 6/13/02 background bkq061302 7.5 2.5 1.62 -0.75 0.47 1.39 0.66 0.64 0.810246876 16.11 7.51 1.522695 10.61874 6.83364 -60.2138 108 6/13/02 soil standard soilstd061302 36.9 5.19 3.34 5.05 0.95 2.46 1.19 7.51 1.522694979 35.34 164.51 4.757226 21.01242 Batch #1 Sample 109 6/13/02 EPA Special #1 7D 21.7 -29.4310.27 93.61 2.94 70.9 3.74 164.51 4.757226082 47.53 158.6 6.378221 -41.9839 28.82814 Batch #1 Sample 110 6/13/02 EPA Special #27D 20.3 -20.52 14.09 98.91 4.01 59.69 4.96 158.6 6.378220755 50.77 178.28 6.749852 -36.8075 30.60816 Batch #1 Sample 111 6/13/02 EPA Special #3 7D 21.6 -17.99 14.96 108.92 4.23 69.36 5.26 178.28 6.74985185 31.24 107.36 4.246375 -17.6161 19.21194 Batch #1 Sample 194.47 7.046616 -34.2705 112 6/13/02 EPA Special #4 7D 21.9 -8.61 9 39 68 91 2 66 38.45 3.31 107.36 4.246374925 49.99 31.5084 Batch #1 Sample 0.90802 -1.49358 113 6/13/02 EPA Special #5 7D 21.5 -16.75 15.4 114.67 4.38 79.8 5.52 194.47 7.046616209 11.74 -0.09 3.64188 6/14/02 background bkg061402 7.5 -0.73-0.09 0.908019824 18.67 7.61 1.562082 7.22238 6.87456 114 1.78 0.28 0.54 -0.370.73

N	lutranl Gamma S	pec Report-	341 East	Ohio S	treet Sit	e										
	Complete File of Nutra	ani Samples														
Sample	Sample Sample	Description	Weight	U-238	U-238	Th-232	Th-232	Ra-226	Ra-226	Total Radium	Total Radium					
ID	Date Group			Activity	Uncertainty	Activity	Uncertainty	Activity	Uncertainty	Activity	Uncertainty					
115	6/14/02 soil standard	soilstd061402 Batch #2 Sample	36.9	3.53	3.36	4.17	0.95	3.44	1.24	7.61	1.562081944	13.1	5.3	1.126144	-1.023	4.8081
116	6/14/02 EPA Special	#1 7D Batch #2 Sample	27.8	-0.5	2.35	3.66	0.69	1.64	0.89	5.3	1.126143863	9.8	7.41	0.896437	3.70326	3.92832
117	6/14/02 EPA Special	#2 7D Batch #2 Sample	27.8	1.81	1.92	4.81	0.56	2.6	0.7	7.41	0.896437393	12.44	5.52	1 098089	1.1253	4.72626
118	6/14/02 EPA Special	#3 7D Batch #2 Sample	27.2	0.55	2.31	3.16	0.67	2.36	0.87	5.52	1.09808925	12.87	7.14	1.152085	2.7621	4.78764
119	6/14/02 EPA Special	#4 7D Batch #2 Sample	26.7	1.35	2.34	1.69	0.68	5.45	0.93	7.14	1.152085066	12.06	5.84	1.05603	2.20968	4.56258
120	6/14/02 EPA Special	#5 7D Batch #3 Sample	28.5	1.08	2.23	3.24	0.64	2.6	0.84	5.84	1.056030303	13.54	3.69	1.122007	-6.48582	4.5012
121	6/14/02 EPA Special	#1 7D Batch #3 Sample	28.3	-3.17	2.2	1.06	0.67	2.63	0.9	3.69	1.12200713	14.27	3.5	1.206027	-2.02554	4.95132
122	6/14/02 EPA Special	#2 7D Batch #3 Sample	28	-0.99	2.42	2.37	0.73	1.13	0.96	3.5	1.206026534	9.95	3.27	0.842021	0.14322	3.43728
123	6/14/02 EPA Special	#3 7D Batch #3 Sample	27	0.07	1.68	1.26	0.51	2.01	0.67	3.27	0.842021377	9.13	3.36	0.814002	10.37322	3.51912
124	6/14/02 EPA Special	#4 7D Batch #3 Sample	28.6	5.07	1.72	1.2	0.49	2.16	0.65	3.36	0.814002457	10.33	3.33	0.858021	3.84648	3.60096
125	6/14/02 EPA Special	#5 7D	28.9	1.88	1.76	1.23	0.51	2.1	0.69	3.33	0.858020979	14.27	5.16	1.278006	6.73134	5.58558
126	6/14/02 overburden	S1066 B-2 OB #1	21.5	3.29	2.73	2.91	. 0.77	2.25	1.02	5.16	1.27800626	14.34	3.27	1.162497	0.12276	4.78764
127	6/14/02 overburden	S1067 B-2 OB #2	24.5	0.06	2.34	-0.07	0.67	3.34	0.95	3.27	1.162497312	15.18	2.8	1.428006	10.80288	6.3426
128	6/14/02 overburden	S1068 B-2 OB #3	27.4	5.28	3.1	2.49	0.86	0.31	1.14	2.8	1.428005602	20.29	3.4	1.830027	15.38592	7.99986
129	6/14/02 overburden	S1069 B-2 OB #4 S1070 B-2 OB	27.4	7.52	3.91	1.14	1.09	2.26	1.47	3.4	1.830027322	15.97	3.78	1.378006	0.04092	5.74926
130	6/14/02 overburden	QC	26.2	0.02	2.81	1.6	0.83	2.18	1.1	3.78	1.378005806	14.96	-0.03	1.340336	2.12784	5.36052
131	6/17/02 background	bkg061702	7.5	1.04	2.62		0.78		1.09		1.340335779	_			-1.39128	6.87456
132	6/17/02 soil standard	soilstd061702	36.9	-0.68	3.36	4.49	0.98	3.49	1.29	7.98	1 620030864	14.91	4.08	1.356024	7.3656	5.89248
133	6/17/02 exclusion zone	S1071 D-6.5 Batch#4	37.3	3.6	2.88	2.27	0 82	1.81	1.08	4.08	1.356023599	10.53	3.18	0.984073	8.22492	4.27614
134	6/17/02 EPA Special	Sample#1 7D Batch#4	27	4.02	2.09	1.8	0.6	1.38	0.78	3.18	0.984073168	11.39	3.1	0.942019	-0.69564	3.9897
135	6/17/02 EPA Special	Sample#2 7D Batch#4	28.9	-0.34	1.95	1.54	0.57	1.56	0.75	3.1	0.942019108	12.96	3.38	1.114002	6.73134	4.82856
136	6/17/02 EPA Special	Sample#3 7D Batch#4	29.2	3.29	2.36	1.57	0.67	1.81	0.89	3.38	1.114001795	11.51	3.91	1.036002	6.97686	4.37844
137	6/17/02 EPA Special	Sample#4 7D Batch#4	27.7	3.41	2.14	1.33	0.62	2.58	0.83	3.91	1.036001931	9.48	3.79	0.838153	3.43728	3.53958
138	6/17/02 EPA Special	Sample#5 7D Batch#5	29.6	1.68	1.73	1.39	0.49	2.4	0.68	3.79	0.838152731	10.17	4.84	0.980051	7.7748	4.21476
139	6/17/02 EPA Special	Sample#1 7D Batch#5	23.5	3.8	2.06	1.71	0.58	3.13	0.79	4.84	0.980051019	11.59	4.5	0.970052	-1.55496	4.11246
140	6/17/02 EPA Special	Sample#2 7D Batch#5	22.9	-0.76	2.01	2.56	0.59	1.94	0.77	4.5	0.970051545	12.04	4.19	1.074477	7.161	4.8081
141	6/17/02 EPA Special	Sample#3 7D Batch#5	21.2	3.5	2.35	3.65	0.67	0.54	0.84	4.19	1.074476617	11.96	3.39	0.976166	2.046	4.23522
142	6/17/02 EPA Special	Sample#4 7D	21.1	1	2.07	2.09	0.6	1.3	0.77	3.39	0.976165969	10.13	5.42	0 886002	2.51658	3.76464

Nutranl Gamma Spec Report- 341 East Ohio Street Site Complete File of Nutrani Samples U-238 Sample Sample Sample Description Weight U-238 Th-232 Th-232 Ra-226 Ra-226 **Total Radium** Total Radium ID Date Activity Uncertainty **Activity Uncertainty Activity** Uncertainty Activity Group Uncertainty Batch#5 21.8 1.23 1.84 2.38 0.53 3.04 0.71 5.42 0.886002257 192.77 9.728248 -16.2657 45.48258 143 6/17/02 EPA Special Sample#5 7D 72.64 Batch#6 144 6/17/02 EPA Special Sample#1 7D 24.5 -7.95 22.23 138.27 6.22 54.5 7.48 192.77 9.72824753 44.36 148.95 5.932099 -15.1813 27.98928 Batch#6 145 6/17/02 EPA Special Sample#2 7D 24.4 -7.42 13.68 113.88 3.83 35.07 4.53 148.95 5.932099123 56.39 169.45 7.298109 2.74164 34.35234 Batch#6 146 6/17/02 EPA Special Sample#3 7D 25.2 1.34 16.79 123.33 4.68 46.12 5.6 169.45 7.298109344 62.66 172.47 8.570793 39.16044 40.63356 Batch#6 Sample#47D 24.9 19.14 122.02 147 6/17/02 EPA Special 19.86 5.48 50.45 6.59 172.47 8.570793429 70.6 179.9 9.305848 -4.31706 43.23198 Batch#6 148 6/17/02 EPA Special Sample#5 7D 23.6 -2.11 21.13 121.78 5.92 58.12 7.18 179.9 9.305847624 13 4.33 1.25 3.35544 5.34006 B-D/2-6 Pre 6/17/02 Pre EPA EPA#1 33.2 1.64 1.76 0.75 2.57 4.33 1.25 12.55 6.91 1.152562 1.4322 5,115 149 2.61 1 B-D/2-6 Pre 150 6/17/02 Pre EPA EPA#2 35 0.7 2.5 5.64 0.72 1.27 0.9 6.91 1.152562363 17.59 5.09 1.74201 9.0024 7.5702 B-D/2-6 Pre 6.64 1.062121 33 5.09 1.742010333 151 6/17/02 Pre EPA EPA#3 4.4 3.7 2.23 1.05 2.86 1.39 11.77 2.41428 4.54212 B-D/2-6 Pre EPA#4 34.1 2.22 3.37 3.27 6.64 1.06212052 -0.42 0.968349 -0.75702 152 6/17/02 Pre EPA 1.18 0.65 0.84 12.7 4.07154 153 6/18/02 background bka061802 20 -0.371.99 -0.310.56 -0.110.79 -0.42 0.968349111 16.18 7.69 1.438402 5.48328 6.21984 6/18/02 soil standard soilstd061802 36.9 2.68 3.04 3.92 7.69 1.438401891 140.06 634.08 21.04373 -523.919 154 3.77 0.89 1.13 100.8064 6/18/02 exclusion zone S1076 C.5-9.2 29.3 -256.07 49.27 33.29 634.08 21.04372828 571.97 1357.44 86.12394 -1359.49 155 600.79 13.99 15.72 384.1774 156 6/18/02 exclusion zone S1077 D-9.8 43 -664.46 187.77 945.81 54.63 411.63 66.58 1357.44 86.1239415 29.64 55.6 3.564323 -24.6952 14.75166 6/18/02 exclusion zone S1078 D-9.6 35 -12.0717.99 37.61 2.88 55.6 3.564323218 10.06 5.2 0.89202 1.04346 3.80556 157 7.21 2.1 S1079 B-C/2-6 158 6/18/02 EPA **EPA #1** 27.7 0.51 1.86 2.79 0.54 2.41 0.71 5.2 0.892020179 14.43 4.53 1.280039 11.19162 5.48328 S1080 B-C/2-6 8.92056 3.11 4.53 1.280039062 12.24 5.27 1.084066 4.68534 159 6/18/02 EPA EPA#2 26.8 5.47 2.68 1.42 0.76 1.03 S1081 B-C/2-6 5.27 1.084066419 4.7 0.85 13.03302 160 6/18/02 EPA EPA#3 28.5 4.36 2.29 2.58 0.66 2.69 0.86 10.22 3.74418 S1082 B-C/2-6 161 6/18/02 EPA **EPA #4** 27.5 6.37 1.83 1.57 0.51 3.13 0.68 4.7 0.85 13.34 5.99 1.208015 11.84634 5.23776 S1083 B-C/2-6 162 6/18/02 EPA EPA #5 27.6 5.79 2.56 1.83 0.72 4.16 0.97 5.99 1.208014901 14.54 21.29 1.66331 4.41936 7.5702 S1084 C-D/2-6 163 15.71 36.72 1.833576 0.45012 6/18/02 EPA 26.6 2.16 15.41 1.05 5.88 1.29 21.29 1.663309953 8.30676 EPA #1 3.7 S1085 C-D/2-6 164 6/18/02 EPA EPA #2 28.4 0.22 4.06 25.28 1.16 11.44 1.42 36.72 1.833575742 14.77 22.92 1.721046 0.7161 7.69296 S1086 C-D/2-6 27.8 165 6/18/02 EPA EPA#3 0.35 3.76 15 1.08 7.92 1.34 22.92 1.721046193 10.23 32.27 1.166619 2.39382 5.23776 S1087 C-D/2-6 166 6/18/02 EPA EPA#4 27.6 1.17 2.56 20.61 0.73 11.66 0.91 32.27 1.166619047 13.54 22.76 1.379058 10.90518 6.28122 S1088 C-D/2-6 22.76 1.379057649 167 6/18/02 EPA **EPA #5** 28.3 5.33 3.07 15.29 0.87 7.47 1.07 15.73 6.56 1.504161 4.46028 6.5472 Batch#7 1.16211 4 95132 168 6/18/02 EPA Special Sample#1 7D 29.8 2.18 3.2 3.33 0.92 3.23 1.19 6.56 1.504160896 13.51 6.38 0.83886 Batch#7 6/18/02 EPA Special Sample#2 7D 7.11 1.198082 1.67772 169 28.6 0.41 2.42 3.16 0.71 3.22 0.92 6.38 1.16211015 12.75 5.09454

Nutranl Gamma Spec Report- 341 East Ohio Street Site Complete File of Nutrani Samples U-238 Th-232 Ra-226 Sample Description Weight U-238 Th-232 Ra-226 **Total Radium** Sample Sample **Total Radium** Activity Activity Uncertainty Activity Uncertainty Date Uncertainty Activity ID Group Uncertainty Batch#7 30.9 3.42 170 6/18/02 EPA Special Sample#3 7D 0.82 2.49 0.73 3.69 0.95 7.11 1.1980818 13.46 6.6 1.202539 10.08678 5.27868 Batch#7 171 6/18/02 EPA Special Sample#4 7D 29 4.93 2.58 3.74 0.75 2.86 0.94 6.6 1.202538981 12.15 5.93 1.178007 10.86426 5.115 Batch#7 172 6/18/02 EPA Special 29.1 5.31 2.5 2.56 0.71 3.37 0.94 5.93 1.178006791 18.66 34.62 2.091172 -8.10216 9.35022 Sample#5 7D Batch#8 -3.96 30.7 4.57 22.14 1.31 12.48 1.63 34.62 2.09117192 18.34 36.96 2.084922 -16.9 9.12516 173 6/18/02 EPA Special Sample#1 7D Batch#8 174 6/18/02 FPA Special Sample#2 7D 31.8 -8.26 4.46 22.61 1.3 14.35 1.63 36.96 2.084922061 17.63 37.72 2.114639 8.9001 9.43206 Batch#8 6/18/02 EPA Special Sample#3 7D 32.5 4.35 4.61 21.43 1.31 16.29 1.66 37.72 2.114639449 22.03 35.89 2.553449 -6.66996 11.37576 175 Batch#8 176 6/18/02 EPA Special Sample#4 7D 32.1 -3.26 5.56 21.86 1.6 14.03 1.99 35.89 2.553448648 17.18 33.98 1.878776 3.60096 8.42952 Batch#8 177 6/18/02 EPA Special Sample#5 7D 31.3 1.76 4.12 20.24 13.74 1.47 33.98 1.878776197 12.07 -0.35 0.958019 -3.35544 3.7851 1.17 178 6/19/02 background bkq061902 7.5 -1.64 1.85 0 0.57 -0.35 0.77 -0.35 0.958018789 12.4 8.44 1.16211 4.52166 5.05362 6.87456 36.9 2.47 5.02 0.71 3.42 0.92 8.44 1.16211015 17.38 1.96 1.604151 8.16354 179 6/19/02 soil standard soilstd061902 2.21 S1089 F-25 OB 2.03 1.172007 -9.9231 4.9104 180 6/19/02 overburden #1 31.4 3.99 3.36 1.06 0.98 0.9 1.27 1.96 1.604150866 15.3 S1090 F-25 OB 4.48074 #2 0.94 2.03 1.172006826 14.55 2.86 1.35 5.74926 181 6/19/02 overburden 30.7 -4.852.4 1.42 0.7 0.61 S1091 F-25 OB 182 #3 31.5 2.19 2.81 1.28 0.81 1.58 1.08 2.86 13.66 1.28 1.142016 3.08946 4.86948 6/19/02 overburden 1.35 S1092 F-25 OB 2.38 1.09 0.19 0.91 1.28 1.142015762 10.31 1.51 0.852115 3.72372 3.62142 183 6/19/02 overburden #4 29.6 1.51 0.69 S1093 F-25 OB 28.8 1.82 1.77 0.25 0.5 1.26 0.69 1.51 0.852115016 16.97 1.22 1.388092 -0.77748 5.56512 184 6/19/02 overburden #5 S1094 F-25 OB 185 6/19/02 overburden QC 27.8 -0.382.72 -0.04 0.82 1.26 1.12 1.22 1.388092216 15.2 14.15 1.578924 -0.6138 7.03824 Batch#9 6/19/02 EPA Special Sample#1 7D 32.3 -0.3 3.44 9.15 0.99 5 1.23 14.15 1.578923684 17.45 9.71 1.708567 5.5242 7.44744 186 Batch#9 32.8 2.7 3.64 5.1 1.06 4.61 1.34 9.71 1.708566651 13.97 10.88 1.352479 13.44222 6.11754 187 6/19/02 EPA Special Sample#2 7D Batch#9 188 6/19/02 EPA Special Sample#3 7D 33.9 6.57 2.99 6.91 0.84 3.97 1.06 10.88 1.352479205 14 11.17 1.354179 10.18908 6.01524 Batch#9 8.42952 6.22 0.83 4.95 1.07 18.99 11.85 1.899079 3.19176 189 6/19/02 EPA Special Sample#4 7D 32.1 4.98 2.94 11.17 1.354178718 Batch#9 190 6/19/02 EPA Special Sample#5 7D 36.5 1.56 4.12 7.27 1.19 4.58 1.48 11.85 1.899078724 1635.57 3468.64 231.656 -3227.5 1022.795 180.64 0.65 1.470544 2140.03 145.03 1328.61 3468.64 231.6560176 15.78 -3.74418 5.54466 191 6/19/02 exclusion zone S1095 D.8-9.5 34.1 -1577.47 499.9 192 6/20/02 background bkg062002 7.5 -1.83 2.71 -0.91 0.85 1.56 1.2 0.65 1.470544117 18.1 8.29 1.814745 -2.2506 7.89756 0.9 1.42 8.29 1.814745161 59.63 167.47 7.674406 -26.7003 34.782 193 6/20/02 soil standard soilstd062002 36.9 -1.1 3.86 7.39 1.13 Batch#1 6/20/02 EPA Special 5.98 52.45 157.23 6.804594 -11.8259 31.11966 194 Sample#1 14D 21.7 -13.0517 102.23 4.81 65.24 167.47 7.674405514 Batch#1 6/20/02 EPA Special Sample#2 14D 5.29 157.23 6.804594036 52.33 162.68 7.181003 -47.4058 32 49048 195 20.3 -5.7815.21 98.16 4.28 59.07 Batch#1 196 6/20/02 EPA Special Sample#3 14D 21.6 -23.17 104.41 58.27 5.58 162.68 7.181002715 39.41 108.06 5.308352 -7.09962 24.06096 15.88 4.52 Batch#1 197 6/20/02 EPA Special Sample#4 14D 21.9 -3.47 3.31 43.9 4.15 108.06 5.30835191 74.59 206.34 10.14038 -57.6358 11.76 64.16

N	intrani	Gamma S	pec Report-	341 East	Ohio S	treet Site										<u> </u>	
	- CLICILI		pec Repert	1		ticet oit											
	Complete	File of Nutra	nl Samples						 								
Sample	Sample	Sample	Description	Weight	U-238	U-238	Th-232	Th-232	Ra-226	Ra-226	Total Radium	Total Radium					
ID	Date	Group			Activity	Uncertainty	Activity	Uncertainty	Activity	Uncertainty	Activity	Uncertainty					
•			Batch#1														
198	6/20/02	EPA Special	Sample#5 14D	21.5	-28.17	22.25	119.51	6.32	86.83	7.93	206.34	10.14037968	18.68	26.07	2.525332	-14.1788	11.1507
199	6/20/02	exclusion zone	S1096 E.7-5 2	25.8	-6.93	5.45	18.68	1.58	7.39	1.97	26.07	2.525331661	25.8	22.69	2.713098	-3.10992	12.84888
200	6/20/02	exclusion zone	S1097 F.5-3.5	189	-1.52	6.28	22.92	1.8	-0.23	2.03	22.69	2.71309786	34.74	115.39	5.036715	-25.7182	24.42924
201	6/20/02	exclusion zone	S1098 E.5-3.5	16.5	-12.57	11.94	109.24	3.34	6.15	3.77	115.39	5.036715199	19.1	14.17	2.05	10.23	9.57528
202	6/20/02	exclusion zone	S1099 F-5.5	22.3	5	4.68	13.03	1.33	1.14	1.56	14.17	2.05	18.54	26.48	2.128685	14.38338	9.63666
203	6/20/02	exclusion zone	S1100 F-6.2	29.8	7.03	4.71	15.8	1.32	10.68	1.67	26 48	2.12868504	15.82	0.61	1.358013	-12.9716	4.99224
204		background	bkg062102	7.5	-6.34	2.44	0.8			1.09		1.358013255		8.06			
205		soil standard	soilstd062102 Batch#2	36.9	1.59	3.46	4.68			1.26		1.596245595			1.318218		5.7288
206	6/21/02	EPA Special	Sample#1 14D Batch#2	27.8	1.97	2.8	2.92	0.81	2.48	1.04	5.4	1.318218495	12.81	7.81	1.168247	-10.6392	4.88994
207	6/21/02	EPA Special	Sample#2 14D Batch#2	27.8	- 5.2	2.39	5.03	0.72	2.78	0.92	7.81	1.168246549	9.99	6.36	0.884081	-6.11754	3.6828
208	6/21/02	EPA Special	Sample#3 14D Batch#2	27.2	-2.99	1.8	3.47	0.54	2.89	0.7	6.36	0.884081444	13.71	5.71	1.322006	-0.36828	5.56512
209	6/21/02	EPA Special	Sample#4 14D Batch#2	26.7	-0.18	2.72	2.87	0.79	2.84	1.06	5.71	1.322006051	9.17	6.29	0.89202	7.42698	3.80556
210	6/21/02	EPA Special	Sample#5 14D Batch#3	28.5	3.63	1.86	3.35	0.54	2.94	0.71	6.29	0.892020179	14.76	2.83	1.240161	3.25314	5.36052
211	6/21/02	EPA Special	Sample#1 14D Batch#3	28.3	1.59	2.62	2.38	0.76	0.45	0.98	2.83	1.24016128	13.92	2.98	1.208015	2.78256	5.15592
212	6/21/02	EPA Special	Sample#2 14D Batch#3	28	1.36	2.52	1.49	0.72	1.49	0.97	2.98	1.208014901	10.99	3.33	0.920054	-0.77748	3.8874
213	6/21/02	EPA Special	Sample#3 14D Batch#3	27	-0.38	1.9	2.2	0.56	1.13	0.73	3.33	0.920054346	13.47	2.81	1.128007	6.50628	4.76718
214	6/21/02	EPA Special	Sample#4 14D Batch#3	28.6	3.18	2.33	0.37	0.68	2.44	0.9	2.81	1.128007092	8.98	3.45	0.8	3.82602	3.41682
215	6/21/02	EPA Special	Sample#5 14D	28.9	1.87	1.67	1.53	0.48	1.92	0.64	3.45	0.8	12.64	2.87	1.1	1.2276	4.58304
216		Pre EPA	B-C/6-9	24.4	0.6	2.24	1.8			0.88				2.38			3.35544
												0.794040301	13.17	3.22		3.41682	
217		Pre EPA	D-E/6-9	23.8	1.23	1.64	0.33			0.64				3.93			
218		Pre EPA	D-E/2-6	21.5	1.67	2.42				0.92		1.156027681				2.5575	2.9667
219		Pre EPA	C-D/2-6	25.3	1.25	1.45	0.87			0.58		0.716100552		2.08			
220	6/21/02	Pre EPA	C-D/6-9	25.4	-1.01	1.7	1.55	0.49	0.53	0.65	2.08	0.814002457	89.95	269.2	12.21856	-165.01	56.3673
221	6/21/02	exclusion zone	S1106 D-10	19	-80.65	27.55	207.66	7.83	61.54	9.38	269.2	12.21856375	19.72	18.95	2.127087	10.41414	9.5139
222	6/21/02	exclusion zone		25.2	5.09	4.65	11.5			1.66		2.12708721		-0.49			4.7058
223	6/24/02	background	bkg062402	7.5	-0.29	2.3	-0.58	0.64	0.09	0.91	-0.49	1.112519663	15.05	8.41	1.338432	-2.8644	5.79018
224		soil standard	soilstd062402 Batch#4	36.9	-1.4	2.83	5.51	0.83	2.9	1.05	8.41	1.338431918	12.31	3.68	1.072007	6.6495	4.6035
225	6/24/02	EPA Special	Sample#1 14D Batch#4	27	3.25	2.25	1.28	0.64	2.4	0.86	3.68	1.072007463	10.89	3.69	0.922009	9.57528	3.96924
226	6/24/02	EPA Special	Sample#2 14D Batch#4	28.9	4.68	1.94	1.14	0.55	2.55	0.74	3.69	0.922008677	10.6	3.72	0.894036	-0.12276	3.7851
227	6/24/02	EPA Special	Sample#3 14D Batch#4	29.2	-0.06	1.85	1.33	0.53	3 2.39	0.72	3.72	0.894035793	11.73	3.41	0.966075	-1.88232	3.94878
228	6/24/02	EPA Special	Sample#4 14D	27.7	-0.92	1.93	1.15	0.57	2.26	0.78	3.41	0.966074531	8.13	4.26	0.722011	6.30168	3.04854

Nutranl Gamma Spec Report- 341 East Ohio Street Site Complete File of Nutrant Samples U-238 Th-232 Sample Sample Sample Description Weight U-238 Th-232 Ra-226 Ra-226 Total Radium Total Radium Activity Uncertainty Activity ID. Date Group Activity Uncertainty Uncertainty Activity Uncertainty Batch#4 229 6/24/02 EPA Special Sample#5 14D 29.6 3.08 1.49 1.19 0.43 3.07 0.58 4.26 0.72201108 11.9 5.06 1.048094 8.61366 4.58304 Batch#5 4.21 2.87 230 6/24/02 EPA Special Sample#1 14D 23.5 2.24 0.64 2.19 0.83 5.06 1.048093507 11.57 6 26 1.05603 -1.45266 4.43982 Batch#5 231 6/24/02 EPA Special Sample#2 14D 22.9 -0.71 2.17 2.57 0.64 3.69 0.84 6.26 1.056030303 10.82 4.42 0.914002 -1.37082 3.84648 Batch#5 2.52 232 -0.676/24/02 EPA Special Sample#3 14D 21.2 1.88 0.55 1.9 0.73 4.42 0.914002188 13.38 5.26 1.126144 -5.07408 4 64442 Batch#5 233 6/24/02 EPA Special Sample#4 14D 21.1 -2.48 2.27 2.82 0.69 2.44 0.89 12.42 5.26 1.126143863 4.96 1.06827 -3.70326 4.48074 Batch#5 234 6/24/02 EPA Special Sample#5 14D 21.8 -1.81 2.19 3.05 0.66 1.91 0.84 4.96 1.068269629 30.17 201.12 4.115349 -56.2445 18.74136 Batch#6 Sample#1 14D -27.49 235 6/24/02 EPA Special 24.5 9.16 136.77 2.6 64.35 3.19 201.12 4.115349317 18.43 166.25 2.572353 -61.9529 11.70312 Batch#6 236 6/24/02 EPA Special Sample#2 14D 24.4 -30.285.72 116.79 1.63 49.46 1.99 166.25 2.572353008 44.37 184.21 5.855339 -44.521 26.76168 Batch#6 237 6/24/02 EPA Special Sample#3 14D 25.2 -21.76 13.08 127.9 3.71 56.31 4.53 184.21 5.855339444 29.08 176.3 4.080907 -37.9942 18.55722 Batch#6 238 6/24/02 EPA Special Sample#4 14D 24.9 -18.57 117.39 58.91 9.07 2.57 3.17 176.3 4.080906762 30.22 180.59 4.00431 -92.1723 17.86158 Batch#6 239 6/24/02 EPA Special Sample#5 14D 23.6 -45.05 8.73 116.85 2.51 63.74 3.12 180.59 4.004310178 11.1 3.43 0.952103 -3.31452 3.82602 S1108 D-E/6-9 240 6/24/02 EPA EPA#1 26.9 -1.62 2.26 0.77 1.87 1.17 0.56 3.43 0.952102936 11.4 3.02 0.95 1.10484 4.11246 S1109 D-E/6-9 241 6/24/02 EPA EPA#2 27.6 0.54 2.01 2.18 0.57 0.84 0.76 3.02 0.95 9.49 2.96 0.770065 -2.16876 3 23268 S1110 D-E/6-9 1.86 242 6/24/02 EPA EPA#3 25.6 -1.06 1.58 0.47 1.1 0.61 2.96 0.770064932 11.81 3.84 0.994032 -11.2735 3.86694 S1111 D-E/6-9 1.33 2.51 243 6/24/02 EPA EPA#4 26.3 -5.51 1.89 0.59 8.0 3.84 0.994032193 11.92 1.92 0.956033 7.30422 4.25568 S1112 D-E/6-9 3.57 1.85 0.07 244 6/24/02 EPA EPA#5 26.5 2.08 0.58 0.76 1.92 0.956033472 14.8 4.68 1.336001 -5.9334 5.38098 S1113 C-D/6-9 245 6/24/02 EPA EPA#1 28.7 -2.9 2.63 1.67 0.8 3.01 1.07 4.68 1.336001497 16.54 2.33 1.348073 -1.04346 5.60604 S1114 C-D/6-9 246 6/24/02 EPA EPA#2 -0.511.29 1.07 0.77201 -2.08692 3 23268 28.6 2.74 0.82 1.04 2.33 1.348072698 9.08 3.39 S1115 C-D/6-9 2.73 1.002098 247 6/24/02 EPA FPA#3 28.5 -1.02 1.58 11 0.46 2.29 0.62 3.39 0.772010363 12.46 -2.61888 4.17384 S1116 C-D/6-9 27 248 6/24/02 EPA -1.28 0.74 0.59 1.99 0.81 1.0020978 13.58 1.540292 -1.69818 6.91548 EPA#4 2.04 2.73 14.43 S1118 C-D/2-6 250 6/24/02 EPA EPA#1 31.5 0.5 1.62 2.19 0.48 2 23 0.64 4.42 0.8 8.25 4.42 8.0 1.023 3.31452 S1119 C-D/2-6 6/24/02 EPA 3.16 0.878009 6.9564 3.8874 251 EPA#2 3.4 1.46 0.53 1.7 0.7 3.16 0.878009112 11.01 31.5 1.9 S1120 C-D/2-6 252 6/24/02 EPA EPA#3 31.5 1.85 2.21 2 0.64 0.84 0.81 2.84 1.032327467 12.34 2.84 1.032327 3.7851 4.52166 S1121 C-D/2-6 6.0357 253 6/24/02 EPA EPA#4 30.1 2.95 2.31 2.06 0.66 1.36 0.88 3.42 12.13 3.42 1.1 4.72626 1.1 S1122 C-D/2-6 254 6/24/02 EPA EPA#5 30 0.51 171 2 58 0.5 1.21 0.64 3.79 0.81215762 9.75 3.79 0.812158 1.04346 3.49866 bkg062502 2.51658 4.07154 255 6/25/02 background 1.23 -0.18 13.13 -0.23 0.98813 7.5 1.99 0.58 -0.050.8 -0.23 0.988129546 256 6/25/02 soil standard soilstd062502 8.22492 36.9 -1.984.02 5.63 1.2 3.41 1.51 9.04 1.928756076 21 9.04 1.928756 -4.05108

Nutranl Gamma Spec Report- 341 East Ohio Street Site Complete File of Nutrant Samples Sample Sample Sample Description Weight U-238 U-238 Th-232 Th-232 Ra-226 Ra-226 Total Radium Total Radium ID Date Activity Uncertainty Activity Uncertainty Activity Activity Group Uncertainty Uncertainty S1123 B-C/6-9 31.3 -3.142.14 1.71 0.64 1.88 0.84 257 6/25/02 EPA EPA#1 3.59 1.056030303 12.72 3.59 1.05603 -6.42444 4.37844 S1124 B-C/6-9 258 6/25/02 EPA EPA#2 31.8 1.65 2.09 1.75 0.6 2.08 0.79 3.83 0.992018145 11.46 3.83 0.992018 3.3759 4.27614 S1125 B-C/6-9 3.41 259 6/25/02 EPA EPA#3 32.7 2.84 1.67 -0.090.47 0.66 3.32 0.810246876 10.05 3.32 0.810247 5.81064 3 41682 S1126 B-C/6-9 260 6/25/02 EPA EPA#4 32.9 0.13 1.92 1.16 0.55 0.4 0.71 1.56 0.898109125 11.7 1.56 0.898109 0.26598 3.92832 S1127 B-C/6-9 261 EPA#5 32.7 -1.97 2.1 2.27 0.61 1 0.79 3.27 0.998098192 12.43 3.27 0.998098 -4.03062 4.2966 6/25/02 EPA S1117 C-D/6-9 -0.83 3.38 12.39 0.99 1.19 13.58 1.54029218 3.71 0.914002 -3.64188 249 6/24/02 EPA EPA#5 28.3 1.18 11.1 3.80556 S1128 D-E/2-6 262 6/25/02 EPA EPA#1 31.6 -1.78 1.86 1.05 0.55 2.66 0.73 3.71 0.914002188 12.88 2.77 1.064002 -0.98208 4.48074 S1129 D-E/2-6 263 6/25/02 EPA EPA#2 30.6 -0.482.19 0.83 0.64 1.94 0.85 2.77 1.06400188 12.72 2.76 1.166062 12.33738 5.09454 S1130 D-E/2-6 EPA#3 2 264 6/25/02 EPA 30.6 6.03 2.49 0.76 0.69 0.94 2.76 1.166061748 12.87 2.98 1.144028 6.9564 4.86948 S1131 D-E/2-6 EPA#4 0.97 2.01 10.03 6.26 0.948103 265 6/25/02 EPA 31.7 3.4 2.38 0.68 0.92 2.98 1.144027972 2.23014 4.07154 S1132 D-E/2-6 6/25/02 EPA EPA#5 31.2 1.09 1.99 3.47 0.58 2.79 0.75 6.26 0.94810337 15.66 20.88 1.799139 0.26598 266 8.02032 6/25/02 exclusion zone S1133 C-16 267 30.6 0.13 3.92 14.92 1.13 5.96 20.88 1.799138683 11.07 6.78 1.05603 3.90786 4.56258 1.4 Batch#7 268 6/25/02 EPA Special Sample#1 14D 29.8 1.91 2.23 3.8 0.64 2.98 0.84 6.78 1.056030303 10.08 6.68 0.90802 0.6138 3.7851 Batch#7 269 6/25/02 EPA Special Sample#2 14D 0.3 2.33 0.54 4.35 0.73 6.68 0.908019824 10.2 7.28 0.978008 6.3426 4.17384 28.6 1.85 Batch#7 270 6/25/02 EPA Special Sample#3 14D 30.9 3.1 2.04 3.02 0.59 4.26 0.78 7.28 0.97800818 12.51 7.78 1.146342 3.31452 5.05362 Batch#7 7.78 1.146342008 10.21 5.64 0.942019 6.71088 4.07154 271 6/25/02 EPA Special Sample#4 14D 29 1.62 2.47 5.04 0.71 2.74 0.9 Batch#7 6/25/02 EPA Special 272 Sample#5 14D 29.1 3.28 1.99 2.97 0.57 2.67 0.75 5.64 0.942019108 19.9 32.34 2.167787 9.75942 9.8208 Batch#8 273 6/25/02 EPA Special Sample#1 14D 30.7 4.77 4.8 20.4 1.37 11.94 1.68 32.34 2.16778689 17.84 37.75 2.144411 6.26076 9.47298 Batch#8 274 6/25/02 EPA Special Sample#2 14D 3.06 20.06 1.32 17.69 1.69 17.73 39.15 2.078702 -4.6035 9.24792 31.8 4.63 37.75 2.144411341 Batch#8 275 37.22 2.122499 14.5266 6/25/02 EPA Special Sample#3 14D 32.5 -2.25 23.81 15.34 1.63 16.82 9.59574 4.52 1.29 39.15 2.078701518 Batch#8 276 6/25/02 EPA Special Sample#4 14D 32.1 7.1 4.69 22.03 1.31 15.19 1.67 37.22 2.122498528 15.6 34.88 1.828797 13.27854 8.24538 Batch#8 6/25/02 EPA Special 277 Sample#5 14D 6.49 4.03 20.39 14.49 1.43 34.88 1.828797419 35.28 51.65 4.208004 25.14534 18.59814 31.3 1.14 278 6/25/02 exclusion zone S1134 E.5-10.5 27 12.29 9.09 21.53 2.52 30.12 3.37 51.65 4.208004278 18.57 5.68 1.846212 12.54198 8.14308 7.54 1.768163 3.90786 7.63158 279 6/25/02 exclusion zone S1135 E.5-11.2 32.6 6.13 3.98 3.23 1.13 2.45 1.46 5.68 1.846212339 19.13 23.16 2.004121 7.22238 8.71596 280 6/25/02 exclusion zone S1136 E.5-11.5 29 1.91 3.73 4.15 1.08 3.39 1.4 7.54 1.768162888 17.32 6/25/02 exclusion zone S1137 E-11 -1.06 1.122007 3.33498 4.78764 281 34.5 3.53 4.26 11.77 1.22 11.39 1.59 23.16 2.004120755 15.24 282 6/26/02 background bkq062602 7.5 1.63 2.34 -0.81 0.9 -1.06 1.12200713 20.96 7.65 2.044431 -8.3886 8.5932 -0.250.67

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N	utranl (Gamma S	pec Report-	341 East	Ohio S	treet Sit	e										
	Complete	File of Nutre	L Complee														
Sample	Sample	File of Nutra	Description	Weight	U-238	U-238	Th-232	Th-232	Ra-226	Ra-226	Total Radium	Total Radium					
ID	Date	Group	Description	weight	Activity	Uncertainty	Activity	Uncertainty	Activity	Uncertainty	Activity	Uncertainty					
283		soil standard	soilstd062602	36.9	-4.1	4.2		1.26		1.61	<u></u>	2.044431461	13.82	13.91	1.485295	2.7621	6.69042
284		EPA Special	Batch#9 Sample#1 14D	32.3	1.35	3.27	10.58	0.94		1.15		1.485294584	13.84	9.5		8.0817	5.46282
	5.20		Batch#9										, 5, 5	0.0		0.0017	0
285	6/26/02	EPA Special	Sample#2 14D Batch#9	32.8	3.95	2.67	4.98	0.77	4.52	0.99	9.5	1.254192968	16.27	10.62	1.596246	18.53676	7.2633
286	6/26/02	EPA Special	Sample#3 14D Batch#9	33.9	9.06	3.55	5.65	0.98	4.97	1.26	10.62	1.596245595	14.49	11.09	1.466492	-14.9358	6.17892
287	6/26/02	EPA Special	Sample#4 14D Batch#9	32.1	-7.3	3.02	7.62	0.91	3.47	1.15	11.09	1.466492414	14.34	13.15	1.432236	14.9358	6.48582
288	6/26/02	EPA Special	Sample#5 14D	36.5	7.3	3.17	6.96	0.88	6.19	1.13	13.15	1.432236014	22.28	21.55	2.359873	14.60844	10.80288
289	6/26/02	exclusion zone	S1138 E-12 S1139 C-14	34.7	7.14	5.28	13.72	1.49	7.83	1.83	21.55	2.359872878	19.03	3.95	1.582214	10.80288	7.12008
290	6/26/02	overburden	OB#1 S1140 C-14	37.1	5.28	3.48	2.16	0.97	1.79	1.25	3.95	1.582213639	11.87	3.85	1.036002	-5.19684	4.21476
291	6/26/02	overburden	OB#2 S1141 C-14	38	-2.54	2.06	1.44	0.62	2.41	0.83	3.85	1.036001931	14.88	5.57	1.39807	15.81558	6.32214
292	6/26/02	overburden	OB#3 S1142 C-14	35.3	7.73	3.09	3.51	0.85	2.06	1.11	5.57	1.398070098	14.34	1.84	1.132254	9.39114	4.88994
293	6/26/02	overburden	OB#4 S1143 C-14 OB	36.8	4.59	2.39	-0.09	0.66	1.93	0.92	1.84	1.132254388	14.15	2.87	1.238103	7.2633	5.15592
294	6/26/02	overburden	QC	36.8	3.55	2.52	0.73	0.73	2.14	1	2.87	1.238103388	14.62	-1.31	1.048618	2.33244	4.35798
295	6/27/02	background	bkg062702	7.5	1.14	2.13		0.6		0.86		1.048618138	18.04	8.74		-13.6264	
296	6/27/02	soil standard	soilstd062702 Batch#1	36.9	-6.66	3.53	6.82	1.06	1.92	1.34	8.74	1.708566651	55.18	160.53	7.244929	22.79244	33.02244
297	6/27/02	EPA Special	Sample#1 21D Batch#1	21.7	11.14	16.14	91.94	4.51	68.59	5.67	160.53	7.244929261	43.23	160.66	5.761267	-62.9554	25.94328
298	6/27/02	EPA Special	Sample#2 21D Batch#1	20.3	-30.77	12.68	102.23	3.61	58.43	4.49	160.66	5.761267222	61.58	176.04	8.206985	-14.0969	37.3395
299	6/27/02	EPA Special	Sample#3 21D Batch#1	21.6	-6.89	18.25	109.36	5.15	66.68	6.39	176.04	8.20698483	30.66	107.48	3.884044	-22.4651	17.43192
300	6/27/02	EPA Special	Sample#4 21D Batch#1	21.9	-10.98	8.52	65.65	2.43	41.83	3.03	107.48	3.884044284	57.7	209.92	8.09921	-14.5471	36.7257
301	6/27/02	EPA Special	Sample#5 21D	21.5	-7.11	17.95	123.5	5.04	86.42	6.34	209.92	8.099209838	22.63	40.83	2.816256	-5.0127	12.25554
302	6/27/02	exclusion zone	S1144 E-12	30.3	-2.45	5.99	20.73	1.72	20.1	2.23	40.83	2.81625638	24.61	44.4	2.660169	-8.02032	11.51898
303	6/27/02	exclusion zone	S1145 E-12 S1146 B-19	27.8	3.92	5.63	19.54	1.62	24.86	2.1,1	44.4	2.660169168	20	2.79	1.690266	3.96924	7.24284
304	6/27/02	overburden	OB#1 S1147 B-19	26.4	1.94	3.54	0.41	0.99	2.38	1.37	2.79	1.690266251	13.42	0.76	0.980051	2.98716	4.27614
305	6/27/02	overburden	OB#2 S1148 B-19	24.9	1.46	2.09	-0.02	0.58	_ 0.78	0.79	0.76	0.980051019	19.09	2.77	1.448068	-11.3758	5.87202
306	6/27/02	overburden	OB#3 S1149 B-19 OB	27.2	-5.56	2.87	1.6	0.88	1.17	1.15	2.77	1.448067678	17.14	1.5	1.286002	-2.12784	5.23776
307	6/27/02	overburden	QC S1150 C-20	25.8	-1.04	2.56	0.68	0.77	0.82	1.03	1.5	1.286001555	11.02	4.03	0.952103	-2.12784	3.92832
308	6/27/02	overburden	OB#1 S1151 C-20	27.7	-1.04	1.92	1.52	0.56	2.51	0.77	4.03	0.952102936	15.34	2.48	1.34618	-5.29914	5.4219
309	6/27/02	overburden	OB#2 S1152 C-20	29.4	-2.59	2.65	0.67	0.79	1.81	1.09	2.48	1.34617978	19.12	4.64	1 696231	-11.5804	6.69042
310	6/27/02	overburden	OB#3	27.9	-5.66	3.27	3.01	1.04	1.63	1.34	4.64	1.696231116	16.82	4.01	1.596152	-12.542	5.99478

Nutranl Gamma Spec Report- 341 East Ohio Street Site Complete File of Nutrani Samples Weight U-238 Th-232 Th-232 Ra-226 Total Radium Sample Sample Sample Description U-238 Ra-226 Total Radium ID Date Group Activity Uncertainty Activity Uncertainty Activity Uncertainty Activity Uncertainty S1153 C-20 OB QC 22.6 -6.13 2.93 1.47 0.94 2.54 1.29 4.01 1.596151622 311 6/27/02 overburden 15.35 -0.5 1.242014 7.73388 5 3196 0.75 312 6/28/02 background bkq062802 7.5 3.78 2.6 0.05 -0.550.99 -0.5 1.242014493 14.47 8.47 1.538376 -2.6598 6.42444 6/28/02 soil standard 36.9 -1.3 3.14 5.89 0.95 2.58 1.21 8.47 1.538375767 313 soilstd062802 9 67 6.37 0.942019 10.08678 4.05108 Batch#2 6/28/02 EPA Special Samole#1 21D 27.8 4.93 1.98 2.95 0.57 3.42 0.75 -5.07408 314 6.37 0.942019108 9.1 8.26 0.882383 3.80556 Batch#2 27.8 6.09 0.55 2.17 2.82348 6/28/02 EPA Special Sample#2 21D -2.481.86 0.69 11.03 5.49 1.010445 4 43982 315 8.26 0.882383137 Batch#2 316 6/28/02 EPA Special Sample#3 21D 27.2 1.38 2 17 4.15 0.63 1.34 0.795 49 1 010445446 8.99 5.72 0.770065 4 66488 3.3759 Batch#2 26.7 3.33 0.47 6/28/02 EPA Special Sample#4 21D 2.28 1.65 2.39 0.61 5.72 0.770064932 12.73 6.48 1.122007 6.93594 4.74672 317 Batch#2 6/28/02 EPA Special Sample#5 21D 28.5 3.39 2.32 1.68 0.67 4.8 6.48 1.12200713 13.76 2.57 1.196328 -8.51136 4.88994 318 0.9 Batch#3 319 6/28/02 EPA Special Sample#1 21D 20 -4.16 2.39 2.95 0.74 -0.380.94 2.57 1.196327714 11.31 3.23 0.914002 -1.78002 3.7851 Batch#3 320 6/28/02 EPA Special Sample#2 21D 28 -0.871.85 1.03 0.55 2.2 0.73 3.23 0.914002188 10.79 4.4 1 -1.00254 4.13292 Batch#3 321 6/28/02 EPA Special Sample#3 21D 27 -0.49 2.02 1.78 0.6 2.62 8.0 4.4 13.93 1.6 1.114002 15.8565 5.0127 Batch#3 322 6/28/02 EPA Special Sample#4 21D 28.6 7.75 2.45 0.82 0.67 0.78 0.89 1.6 1.114001795 12.75 4.54 1.152085 -11.7645 4.54212 Batch#3 2.22 1.49 15.76 6.24 1.538083 0.98208 6.30168 323 6/28/02 EPA Special Sample#5 21D 28.9 -5.75 0.68 3.05 0.93 4.54 1.152085066 324 6/28/02 exclusion zone S1154 E-7 31.7 0.48 3.08 2.01 0.91 4.23 1.24 6.24 1.538083223 19.71 2.91 1.554156 -1.1253 6.73134 S1155 D-19.5 13.17 30.3 -0.55 3.29 1.26 0.95 1.65 1.23 2.91 1.554155719 3.24 1.116065 -0.57288 4.66488 325 6/28/02 overburden OB#1 S1156 D-19.5 30.2 -0.282.28 1.3 0.66 1.94 0.9 3.24 1.116064514 15.66 2.95 1.35 6.79272 5.87202 326 6/28/02 overburden OB#2 S1157 D-19.5 30.1 3.32 2.87 2.95 16.15 4.91 1.340336 1.49358 5.54466 1.3 0.81 1.65 1.08 1.35 327 6/28/02 overburden OB#3 S1158 D-19.5 4.91 1.340335779 37.67 2.582596 -6.40398 12.03048 328 6/28/02 overburden OB QC 30.7 0.73 2.71 0.79 0.78 4.12 1.09 23.48 329 6/28/02 exclusion zone S1159 F-7.5 29.1 -3.13 5.88 30.71 1.67 6.96 1.97 37.67 2.582595594 12.99 -0.16 0.998649 5.44236 4.1943 2.66 2.05 -0.9 0.57 0.74 0.82 -0.16 0.998649088 16.84 1.710263 0.4092 7.3656 330 7/1/02 background bkq070102 7.5 -1.26852 331 7/1/02 soil standard soilstd070102 36.9 0.2 3.6 5.36 1.05 4.15 1.35 9.51 1.710263138 11.98 3.54 0.992018 4.17384 Batch#4 332 7/1/02 EPA Special Sample#1 21D 27 -0.622.04 1.7 0.6 1.84 0.79 3.54 0.992018145 11.3 3.24 1.020049 8.85918 4.56258 Batch#4 333 7/1/02 EPA Special Sample#2 21D 28.9 4.33 2.23 2.25 0.62 0.99 0.81 3.24 1.020049018 10.07 2.86 0.834086 4.78764 3.66234 Batch#4 1.79 334 7/1/02 EPA Special Sample#3 21D 29.2 2.34 1.73 0.51 1.13 0.66 2.86 0.834086326 12.38 2.53 0.964002 8.32722 4.2966 Batch#4 335 7/1/02 EPA Special Sample#4 21D 27.7 4.07 2.1 0.95 0.58 1.58 0.77 2.53 0.964002075 15.11 4.53 1.322006 0.34782 5.40144 Batch#4 336 7/1/02 EPA Special Sample#5 21D 0.17 2.64 0.62 0.79 3.91 1.06 4.53 1.322006051 13.07 5.23 1.164002 5.85156 5.05362 29.6 Batch#5 337 9.09 5.46 0.840238 6.58812 3.66234 7/1/02 EPA Special Sample#1 21D 23.5 2.86 2.47 2.14 0.7 3.09 0.93 5.23 1.164001718 Batch#5 12.87 4.79 1.05 9.5139 4.62396 338 7/1/02 EPA Special Sample#2 21D 22.9 3.22 1.79 3.27 0.52 2.19 0.66 5.46 0.840238062

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N	utranl (Gamma S	pec Report-	341 East	Ohio S	treet Sit	e										
	Complete	File of Nutra	nl Camples							····							
ample	Sample	Sample	Description	Weight	U-238	U-238	Th-232	Th-232	Ra-226	Ra-226	Total Radium	Total Radium					
ID	Date	Group	Description	Weight	Activity	Uncertainty	Activity			Uncertainty	Activity	Uncertainty					
10	Date	Gioup	Batch#5		7,0,1,1,1	Gildertailty	Adminy	O.Oc. Lanny	Addition	onochanny	Activity	Oncertainty	1	ì	ı	i	
339	7/1/02	EPA Special	Sample#3 21D Batch#5	21.2	4.65	2.26	1.62	0.63	3.17	0.84	4.79	1.05	9.81	4.47	0.942019	4.01016	4.0101
340	7/1/02	EPA Special	Sample#4 21D Batch#5	21.1	1.96	1.96	2.83	0.57	1.64	0.75	4.47	0.942019108	11	5.26	0.928009	-2.9667	3.887
341	7/1/02	EPA Special	Sample#5 21D Batch#6	21.8	-1.45	1.9	2.04	0.56	3.22	0.74	5.26	0.928008621	48.37	197.09	6.532442	-37.9942	30.4444
342	7/1/02	EPA Special	Sample#1 21D Batch#6	24.5	-18.57	14.88	140.59	4.18	56.5	5.02	197.09	6.532442116	33.46	162.8	4.564526	-69.1753	21.0942
343	7/1/02	EPA Special	Sample#2 21D Batch#6	24.4	-33.81	10.31	121.7	2.93	41.1	3.5	162.8	4.564526262	47.67	194.46	6.458336	-40.7563	29.769
344	7/1/02	EPA Special	Sample#3 21D Batch#6	25.2	-19.92	14.55	135.82	4.1	58.64	4.99	194.46	6.458335699	36.65	175.2	4.851361	-0.36828	22.608
345	7/1/02	EPA Special	Sample#4 21D Batch#6	24.9	-0.18	11.05	122.38	3.09	52.82	3.74	175.2	4.851360634	44.14	176.63	5.796292	-57.82	26.5570
346	7/1/02	EPA Special	Sample#5 21D	23.6	-28.26	12.98	121.54	3.69	55.09	4.47	176.63	5.796291918	12.79	3.11	1.054372	5.89248	4.4193
347	7/1/02	Pre EPA	B-C/9-13	25.5	2.88	2.16	-0.35	0.61	3.46	0.86	3.11	1.054371851	11.53	1.51	0.932309	-3.31452	3.7646
348	7/1/02	Pre EPA	B-C/13-17.5	29.9	-1.62	1.84	0.31	0.54	1.2	0.76	1.51	0.932308962	13.27	3.86	1.172007	-5.13546	4.767
349	7/1/02	Pre EPA	C-D/9-13	28.4	-2.51	2.33	1.86	0.7	2	0.94	3.86	1.172006826	11.4	3.09	0.9	1.20714	3.846
350		Pre EPA	D-E/13-17.5	28.9	0.59	1.88		0.54		0.72			11.99		0.998098	0.36828	
351		Pre EPA	D-E/9-13	31.4	0.18	2.1		0.61		0.79		0.998098192	14.32	3.16			
352		Pre EPA	C-D/13-17.5	28.2	5.99	2.84		0.8		1.03		1.30418557	29.95	65.5		-18.4958	
353			S1166 F.5-8.5	31.2	-9.04	8.78				2.89		3.808214805	38.38		4.853215	-26.0456	
354		exclusion zone		28.2	-12.73	11.47		3.21		3.64		4.853215429	22.69	11.56		-12.5829	
355		exclusion zone		29.3	-6.15	4.77		1.41		1.62		2.147673159	13.55		1.056835	7.8771	4.460
356	7/2/02	background	bkg070202	7.5	3.85	2.18		0.6		0.87		1.056834897	14.48		1.412091	5.68788	
357	7/2/02	soil standard	soilstd070202 Batch#7	36.9	2.78	3.01		0.86		1.12		1.412090649	12.8	6.23		5.91294	
358	7/2/02	EPA Special	Sample#1 21D Batch#7	29.8	2.89	2.52				0.94		1.184060809	12.06	5.38			
359		EPA Special	Sample#2 21D Batch#7	28.6	5.92	2.38				0.87			13.12		1.242014		
360		EPA Special	Sample#3 21D Batch#7	30.9	-3.91	2.49				0.99		1.242014493	13.29		1.310343	3.10992	
361		EPA Special	Sample#4 21D Batch#7	29	1.52	2.8				1.03		1.310343466	10.94		0.970052		
362		EPA Special	Sample#5 21D Batch#8	29.1	-0.78	2.04				0.77		0.970051545	18.16	33.99	2.049	-1.18668	
363		EPA Special	Sample#1 21D Batch#8	30.7	-0.58	4.47		1.28		1.6		2.048999756	18.39		2.113031	0.98208	
364		EPA Special	Sample#2 21D Batch#8	31.8	0.48	4.56		1.32		1.65		2.113030998	12.25		1.338432		
365		EPA Special	Sample#3 21D Batch#8	32.5	-2.96	2.89		0.83			•	1.338431918	21.27		2.411327		
366		EPA Special	Sample#4 21D Batch#8	32.1	-2.02	5.22					•	2.411327435	17.42		2.063056		
367		EPA Special	Sample#5 21D	31.3	5.71	4 56						2.063055986	22.99		2.633724		12.2964
368	7/2/02	exclusion zone	S1169 F-5.9	24.6	4.07	6.01	30.88	1.69	6.11	2.02	2 36.99	2.6337236	173 <u>85</u>	577.98	26.63101	-536.645	125.460

Nutranl Gamma Spec Report- 341 East Ohio Street Site Complete File of Nutrani Samples Sample Sample Sample Description Weight U-238 U-238 Th-232 Th-232 Ra-226 Ra-226 Total Radium Total Radium Activity Activity Uncertainty Activity Uncertainty ID Date Group Uncertainty Activity Uncertainty 26 -262.29 61.32 507.12 17.47 70.86 7/2/02 exclusion zone S1170 F.8-5.5 20.1 577.98 26.63101387 369 27.64 55.68 3.553322 2.046 17.04318 28.4 8.33 46.29 2.31 9.39 2.7 55.68 3.553322389 370 7/2/02 exclusion zone S1171 G-2.5 1 94.54 404.75 13.55673 -351.626 64 10118 371 7/2/02 exclusion zone S1172 G-2 22.9 -171.86 31.33 365.21 8.93 39.54 10.2 404.75 13.55672896 15.43 0.66 1.284562 -3.069 4.95132 7.5 2.42 -0.740.74 1.4 1.05 0.66 1.284562182 7/3/02 background bkg070302 -1.5 19.86 7.5 1.992787 6.58812 8.83872 372 7/3/02 soil standard soilstd070302 36.9 3.22 4.32 6.23 1.24 1.27 1.56 7.5 1.992786993 14.75 13.59 1.436802 11.70312 373 6.48582 Batch#9 Sample#1 21D 32.3 5.72 3.17 8.68 0.9 4.91 13.59 1.436802004 374 7/3/02 EPA Special 1.12 13.12 9.6 1.188486 0.77748 5.13546 Batch#9 0.38 0.93 Sample#2 21D 32.8 2.51 5.78 0.74 3.82 9.6 1.188486432 12.99 375 7/3/02 EPA Special 11.77 1.288449 5.97432 5.70834 Batch#9 7/3/02 EPA Special Sample#3 21D 33.9 2.92 2.79 6.81 8.0 4.96 1.01 11.77 1.28844868 11.03 10.85 1.096358 -2.39382 376 4.74672 Batch#9 377 7/3/02 EPA Special Sample#4 21D 32.1 -1.17 2.32 6.98 0.68 3.87 0.86 10.85 1.096357606 19.37 13.76 1.848053 3.76464 7.93848 Batch#9 378 7/3/02 EPA Special Sample#5 21D 36.5 1.84 3.88 5.88 1.12 7.88 1.47 13.76 1.84805303 21.52 14.37 2.202294 0.1023 9.24792 S1173 G-11 OB#1 31.2 0.05 4.52 6.9 1.35 7.47 1.74 14.37 2.202294258 17.45 6.19 1.396173 12.11232 5.95386 379 7/3/02 overburden S1174 G-11 OB#2 1.43405 5.38098 380 7/3/02 overburden 41.9 5.92 2.91 0.07 0.82 6.12 1.13 6.19 1.396173342 17.18 1.95 6.3426 S1175 G-11 OB#3 34.4 2.63 1.12 0.87 0.83 1.14 1.95 1.434050208 20.01 2.05 1.558012 8.75688 6.8541 381 7/3/02 overburden 3.1 S1176 G-11 OB 382 7/3/02 overburden QC 36.3 4.28 3.35 -0.04 0.93 2.09 1.25 2.05 1.558011553 18.79 5.96 1.45 -11.9282 6.05616 S1177 G-11 383 OB#1 (2) 48.3 -5.83 2.96 2.21 0.87 3.75 1.16 5.96 1.45 26.72 6.22 2.184033 -1.98462 9.1047 7/3/02 overburden S1178 G-11 1.32 3.69 1.74 6.22 2.184032967 6.75 1.356024 -0.04092 5.74926 384 7/3/02 overburden OB#4 47.1 -0.974.45 2.53 14.97 S1179 G-11 0.82 1.08 -6.56766 385 7/3/02 overburden OB#5 46.7 -0.022.81 3.75 3 6.75 1.356023599 13.36 1.39 1.201041 4.3989 bkg070802 7.5 -3.21 2.15 0.14 0.68 1.25 0.99 1.39 1.201041215 14.23 7.57 1.276127 1.1253 5.3196 386 7/8/02 background 252.01 9.714119 -50.2088 387 7/8/02 soil standard soilstd070802 36.9 0.55 2.6 3.18 0.78 4.39 1.01 7.57 1.276126953 73.09 41.20644 388 7/8/02 exclusion zone S1180 G-8 42.6 -24.54 20.14 96.32 5.79 155.69 7.8 252.01 9.714118591 39.8 165.4 5.039782 -21.6058 22,6083 Batch#1 3.95 32.26 146.83 4.358865 -54.1167 19.55976 Sample#1 32D -10.56 95.67 69.73 165.4 5.039781741 389 7/8/02 EPA Special 21.7 11.05 3.13 Batch#1 92.25 54.58 3.39 146.83 4.358864531 33.65 177.37 4.468132 -54.8123 20.00988 390 7/8/02 EPA Special Sample#2 32D 20.3 -26.459.56 2.74 Batch#1 3.49 26.84 391 7/8/02 EPA Special -26.79 2.79 68.82 177.37 4.468131601 104.95 3.463943 -27.1095 15.52914 Sample#3 32D 21.6 9.78 108.55 Batch#1 392 7/8/02 EPA Special Sample#4 32D 21.9 -13.257.59 64.35 2.17 40.6 2.7 104.95 3.46394284 56.76 225.84 7.47457 -68.2546 33.32934 Batch#1 393 7/8/02 EPA Special Sample#5 32D 21.5 -33.3616.29 131.83 4.64 94.01 5.86 225.84 7.474570222 14.71 3.99 1.316055 -0.36828 5.4219 A.5-D/15.5-17.5 3.84648 394 7/8/02 EPA EPA#1 26.5 -0.182.65 1.6 0.78 2.39 1.06 3.99 1.31605471 11.02 4.2 0.928009 1.8414 A.5-D/15.5-17.5 EPA#2 2.34 13.1 4.77 1.142016 11.94864 5.09454 395 7/8/02 EPA 27.9 1.88 1.86 0.56 0.74 4.2 0.928008621 0.9 A.5-D/15.5-17.5 EPA#3 4 1.214002 9.5139 5.3196 396 7/8/02 EPA 28.1 5.84 2.49 2.46 0.69 2.31 0.91 4.77 1.142015762 14.16

Nutranl Gamma Spec Report- 341 East Ohio Street Site Complete File of Nutrant Samples Sample Weight U-238 Th-232 Th-232 Ra-226 Total Radium Sample Sample Description U-238 Ra-226 Total Radium ID Activity Date Group Uncertainty Activity Uncertainty Activity Uncertainty Activity Uncertainty A.5-D/15.5-17.5 397 7/8/02 EPA EPA#4 26.5 4.65 2.6 1.51 0.73 2.49 0.97 4 1.214001647 9.06 4.99 0.814002 2.37336 3.39636 A.5-D/15.5-17.5 398 7/8/02 EPA EPA#5 26.3 1.16 1.66 1.8 0.49 3.19 0.65 4.99 0.814002457 11.86 2.74 0.980051 -6.30168 3.84648 A.5-D.5/14-15.5 399 7/8/02 EPA 29.8 -3.081.88 0.92 0.58 1.82 0.79 2.74 0.980051019 10.92 2.41 1.014002 2.88486 4.25568 EPA#1 A.5-D.5/14-15.5 400 30.1 1.41 2.08 1.6 0.61 0.81 0.81 2.41 1.014001972 10.2 3.05 0.854459 2.98716 3.49866 7/8/02 EPA EPA#2 A.5-D.5/14-15.5 1.46 -0.44 0.49 12.78 2.58 0.994032 -0.77748 401 7/8/02 EPA EPA#3 30.5 1.71 3.49 0.7 3.05 0.854458893 4.15338 A.5-D.5/14-15.5 402 7/8/02 EPA EPA#4 31 -0.382.03 0.34 0.59 2.24 0.8 2.58 0.994032193 9.06 2.74 0.75 -3.35544 3.02808 A.5-D.5/14-15.5 EPA#5 29.4 -1.64 1.48 1.34 0.45 2.74 0.75 15.72 3.4 1.280039 2.2506 5.38098 403 7/8/02 EPA 1.4 0.6 404 7/8/02 EPA B-C/9-13 EPA#1 31.6 1.1 2.63 0.59 0.76 2.81 1.03 3.4 1.280039062 7.04 3.49 0.6 -4.25568 2.4552 405 7/8/02 EPA B-C/9-13 EPA#2 31.5 -2.08 1.2 1.48 0.36 2.01 0.48 3.49 0.6 12.44 2.91 1.006032 0.9207 4.23522 406 7/8/02 EPA B-C/9-13 EPA#3 31.7 0.45 2.07 1.24 0.61 1.67 8.0 2.91 1.006031809 11.39 2.42 0.934077 3.04854 4.07154 0.74 2.42 0.934077085 4.62396 407 7/8/02 EPA B-C/9-13 EPA#4 31.6 1.49 1.99 1.77 0.57 0.65 11.94 3.26 1.144028 -0.75702 -0.372.26 1.38 0.92 3.26 1.144027972 10.34 1.42 0.858021 3.08946 3.64188 408 7/8/02 EPA B-C/9-13 EPA#5 31.7 0.68 1.88 A.5-E/13-14 409 7/8/02 EPA EPA#1 31.6 1.51 1.78 0.26 0.51 1.16 0.69 1.42 0.858020979 11.87 2.8 0.986002 2.29152 4.13292 A.5-E/13-14 0.65 0.79 2.8 0.986002028 10.61 2,12 0.864002 0.3069 3.60096 410 7/8/02 EPA EPA#2 32.2 1.12 2.02 0.59 2.15 A.5-E/13-14 411 7/8/02 EPA EPA#3 31.7 0.15 1.76 1.03 0.52 1.09 0.69 2.12 0.864002315 10.99 2.34 0.888144 4.03062 3.76464 A.5-E/13-14 412 7/8/02 EPA EPA#4 30.7 1.97 1.84 0.29 0.52 2.05 0.72 2.34 0.888144132 11.82 1.54 0.962133 2.00508 4.13292 A.5-E/13-14 413 7/8/02 EPA EPA#5 31.7 0.98 2.02 1.32 0.59 0.22 0.76 1.54 0.962133047 9.72 5.68 0.89202 8.7978 3.84648 7/8/02 EPA C-E/9-11 EPA#1 30.8 4.3 1.88 2.25 0.54 3.43 0.71 5.68 0.892020179 13.21 5.76 1.202539 3.6828 5.23776 414 1.8 2.56 3.91 0.75 1.85 0.94 5.76 1.202538981 12.53 4.17 1.126144 -0.65472 4.74672 415 7/8/02 EPA C-E/9-11 EPA#2 30.3 12.17 4.44 1.048094 12.03048 4.58304 -0.322.32 3.11 0.69 1.06 0.89 4.17 1.126143863 416 7/8/02 EPA C-E/9-11 EPA#3 31.5 417 7/8/02 EPA C-E/9-11 EPA#4 29.7 5.88 2.24 2.37 0.64 2.07 0.83 4.44 1,048093507 14.12 6.28 1.362094 -4.68534 5.64696 418 7/8/02 EPA C-E/9-11 EPA#5 30.9 -2.292.76 3.88 0.83 2.4 1.08 6.28 1.362093976 11.78 4.79 0.978008 4.84902 4 25568 C-E/11-13 419 7/8/02 EPA EPA#1 33.3 2.37 2.08 1.72 0.59 3.07 0.78 4.79 0.97800818 10.03 4.26 0.85276 1.8414 3.84648 C-E/11-13 14.05 5.92 1.246315 -6.138 5.17638 420 7/8/02 EPA EPA#2 32.5 0.9 1.88 4.38 0.54 -0.12 0.66 4.26 0.852760224 C-E/11-13 12.22 3.9 0.990202 -1.78002 4.25568 421 7/8/02 EPA EPA#3 33 -3 2.53 3.46 0.77 2.46 0.98 5.92 1.246314567 C-E/11-13 7/8/02 EPA EPA#4 10.79 5.24 0.962133 0.38874 4.1943 422 32.8 -0.872.08 2.56 0.61 1.34 0.78 3.9 0.990202

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			nl Samples						D 000								
	Sample	Sample	Description	Weight	U-238	U-238	Th-232	Th-232	Ra-226	Ra-226	Total Radium	Total Radium					
	Date	Group			Activity	Uncertainty	Activity	Uncertainty	Activity	Uncertainty	Activity	Uncertainty	1		1	1	
400	7/0/00 5	-D4	C-E/11-13	20.4	0.40	0.05	0.40	0.50	1.00	0.70	5.04	0.0004.000.47	10.10	0.74	4.074454	0.00000	4 0000
423	7/8/02 E		EPA#5	32.1	0.19	2.05		0.59		0.76		0.962133047	13.16		1.074151	0.36828	4.3989
424		ackground	bkg070902	7.5	0.18	2.15		0.63		0.87		1.074150827	14.74		1.318218	4.8081	5.74926
425	7/9/02 S	oil standard	soilstd070902 Batch#2	36.9	2.35	2.81	4.41	0.81	3.18	1.04	7.59	1.318218495	12.16	6.58	1.168247	-6.4449	4.93086
426	7/0/02 F	PA Special	Sample#1 32D	27.8	-3.15	2.41	4.43	0.72	2.15	0.92	6.58	1.168246549	12.56	B 27	1.326122	3.49866	5.6265
420	113102 L	I A Opecial	Batch#2	27.0	-3.13	2.41	4.43	0.72	2.13	0.32	0.50	1.100240043	12.50	0.27	1.320122	3.43000	3.0203
427	7/9/02 F	PA Special	Sample#2 32D	27.8	1.71	2.75	4.52	0.81	3.75	1.05	8 27	1.326122166	10.47	5 54	0.886002	0.5115	3.74418
721	175702 2	., 7, opeo.u,	Batch#2	27.0		2.70	∪ L	0.0.	0.70	1.00	, 0.2.	1.020722700	10.11	0.01	0.000002	0.0110	0.7 1110
428	7/9/02 E	EPA Special	Sample#3 32D	27.2	0.25	1.83	2.15	0.53	3.39	0.71	5.54	0.886002257	14.44	6.41	1.222007	9.49344	5.19684
			Batch#2														
429	7/9/02 E	PA Special	Sample#4 32D	26.7	4.64	2.54	1.57	0.73	4.84	0.98	6.41	1.222006547	10.47	6.73	0.956033	-2.78256	3.9897
		·	Batch#2														
430	7/9/02 E	EPA Special	Sample#5 32D	28.5	-1.36	1.95	3.64	0.58	3.09	0.76	6.73	0.956033472	10.08	3.12	0.858021	0.6138	3.62142
			Batch#3														
431	7/9/02 E	PA Special	Sample#1 32D	28.3	0.3	1.77	1.02	0.51	2.1	0.69	3.12	0.858020979	11.59	2.65	0.980051	7.28376	4.27614
			Batch#3														
432	7/9/02 E	EPA Special	Sample#2 32D	28	3.56	2.09	1.18	0.58	1.47	0.79	2.65	0.980051019	9.14	3.89	0.814002	-3.96924	3.3759
			Batch#3														i
433	7/9/02 E	PA Special	Sample#3 32D	27	-1.94	1.65	2.06	0.49	1.83	0.65	3.89	0.814002457	. 8.3	4.06	0.756042	-7.65204	3.10992
			Batch#3														
434	7/9/02 E	PA Special	Sample#4 32D	28.6	-3.74	1.52	2.69	0.46	1.37	0.6	4.06	0.756042327	12.42	3.12	1.084066	0.77748	4.58304
			Batch#3														
435	7/9/02 E	EPA Special	Sample#5 32D	28.9	0.38	2.24	2.4	0.66	0.72	0.86	3.12	1.084066419	11.77	4.88	1.06827	-4.9104	4.58304
													40.40	0.00		0.00500	4 =0000
436	7/9/02 €	exclusion zone	S1211 F.5-9	22.5	-2.4	2.24	4.45	0.66	0.43	0.84	4.88	1.068269629	13.48	3.86	1.092016	-0.22506	4.72626
407	7/0/00		04040 5 5 0 5	00.0	0.44	0.04	0.04	0.00	1.05	0.07	0.00	4 00004 0400	00.5	24.00	0.040055	7 5700	0.70000
437	7/9/02 e	exclusion zone	S1212 F.5-9.5	23.3	-0.11	2.31	2.21	0.66	1.65	0.87	3.86	1.092016483	22.5	24.08	2.312055	-7.5702	9.73896
400	7/0/00 6	valuaian sans	01010 0 5 0	01	0.7	4.76	11.00	1.4	12.19	1.84	24.00	0.210055060	752.20	1200 20	115 0674	2510.10	525.4333
438	7/9/02 6	exclusion zone	S1213 G.5-2	21	-3.7	4.70	11.89	1.4	12.19	1.84	24.00	2.312055363	753.29	1390.29	115.9674	-2310.16	323.4333
439	7/0/02 6	exclusion zone	S1214 C 2 2	27.4	-1226.87	256 81	1264.85	76.37	133.44	87.27	1308 20	115.9673652	21.89	23.85	2.644126	-1 /117/	11.84634
439	7/9/02 6	exclusion zone	31214 G.3-3	21.4	-1220.07	230.01	1204.05	10.31	155.44	07.27	1390.29	113.5073032	21.09	23.03	2.044120	*1.411/4	11,04034
440	7/9/02 6	exclusion zone	S1215G 5-3	19.5	-0.69	5.79	17.01	1.67	6.84	2.05	23.85	2.644125564	11.11	-0.26	0.870057	-0.53196	3.64188
441		ackground	bkg071002	7.5	-0.26	1.78		0.53		0.69		0.870057469	14.75		1.348073	-4.07154	5.70834
442		soil standard	soilstd071002	36.9	-1.99	2.79		0.82		1.07		1.348072698	21.18		2.164625		9.1047
772	7710702	on standard	301131307 1002	50.5	1.55	2.70	4.0	0.02	0.00	1.07	7.50	1.0 1007 2000	21.10		2.104020	70.2222	0.1017
443	7/10/02 €	exclusion zone	S1216 H-5	34.8	-7.44	4.45	10.52	1.34	5.22	1.7	15.74	2.164624679	13.67	3.87	1.228007	0.77748	5.115
			Batch#4		, , , ,												
444	7/10/02 E	EPA Special	Sample#1 30D	27	0.38	2.5	2.11	0.74	1.76	0.98	3.87	1.228006515	10.93	3.72	0.948103	-2.39382	3.9897
			Batch#4		0.00												
445	7/10/02 E	EPA Special	Sample#2 30D	28.9	-1.17	1.95	2.11	0.58	1.61	0.75	3.72	0.94810337	12.85	3.41	1.020049	0.45012	4.31706
		,	Batch#4														
446	7/10/02 E	EPA Special	Sample#3 30D	29.2	0.22	2.11	1.39	0.62	2.02	0.81	3.41	1.020049018	11.68	3.32	0.960208	0.98208	4.07154
			Batch#4														
447	7/10/02 E	EPA Special	Sample#4 30D	27.7	0.48	1.99	1.14	0.56	2.18	0.78	3.32	0.960208311	15	3.66	1.340149	3.15084	5.76972
			Batch#4										•				
448	7/10/02 E	EPA Special	Sample#5 30D	29.6	1.54	2.82	1.86	0.82	1.8	1.06	3.66	1.340149245	11.19	5.58	1.022008	1.24806	4.35798
			Batch#5														
449	7/10/02 E	EPA Special	Sample#1 30D	23.5	0.61	2.13	2.33	0.61	3.25	0.82	5.58	1 022007828	14 61	6 79	1 356024	-2.53704	5 58558
_			Batch#5			_					_				0.04	0.000	0.0000=
450	7/10/02 E	EPA Special	Sample#2 30D	22.9	-1.24	2.73	2.66	0.82	4.13	1.08	6.79	1.356023599	10.68	4.84	0.910494	-8.2863	3.82602

Nutranl Gamma Spec Report- 341 East Ohio Street Site Complete File of Nutrani Samples U-238 Th-232 Ra-226 Sample Sample Sample Description Weight U-238 Th-232 Ra-226 Total Radium Total Radium Activity Activity Uncertainty Activity Activity ID Date Group Uncertainty Uncertainty Uncertainty Batch#5 7/10/02 EPA Special Sample#3 30D 21.2 -4.05 1.87 4.13 0.57 0.71 0.71 4.84 0.910494371 13.16 451 4.32 1.136002 -8.53182 4.56258 Batch#5 Sample#4 30D 21.1 -4.17 2.23 2.09 0.68 2.23 0.91 4.32 1.136001761 12.74 452 7/10/02 EPA Special 4.11 1.118258 6.62904 4.9104 Batch#5 7/10/02 EPA Special Sample#5 30D 21.8 3.24 2.82 0.69 1.29 0.88 37.09 199.43 5 299528 -53,4006 24,30648 453 4.11 1.118257573 Batch#6 454 7/10/02 EPA Special Sample#1 30D 24.5 -26.111.88 138.19 3.37 61.24 4.09 199.43 5.299528281 31.35 159.29 4.195772 -55.8763 19.39608 Batch#6 455 7/10/02 EPA Special Sample#2 30D 24.4 -27.319.48 117.83 2.69 41.46 3.22 159.29 4.195771681 38 176.79 5.113824 -35.4981 23.69268 Batch#6 7/10/02 EPA Special Sample#3 30D 25.2 -17.35 11.58 124.61 3.26 52.18 3.94 176.79 5.113824401 29.48 180.39 4.19068 -68.6638 19.2324 456 Batch#6 457 7/10/02 EPA Special Sample#4 30D 24.9 -33.56128.29 2.67 52.1 3.23 180.39 4.190680136 42.87 184.96 6.072133 -76.8068 27.25272 Batch#6 Sample#5 30D 23.6 -37.54 3.82 65.69 4.72 9.58 10.1 0.990202 4.1943 458 7/10/02 EPA Special 13.32 119.27 184.96 6.072133068 -7.5702 459 7/10/02 exclusion zone S1217 G-7 29 -3.7 2.05 7.07 0.61 3.03 0.78 10.1 0.990202 20.01 7 1.968146 -0.85932 8.34768 460 7/10/02 exclusion zone \$1218 G.5-5.5 30.9 -0.424.08 4.12 1.2 2.88 1.56 7 1.968146336 15.4 23.56 1.666433 6.83364 7.34514 7/10/02 exclusion zone \$1219 G.8-5.5 3.34 10.55 461 31.2 3.59 13.01 1.03 1.31 23.56 1.666433317 13.04 -0.85 1.086002 6.19938 4.7058 462 7/11/02 background bkq071102 7.5 3.03 2.3 0.52 0.65 -1.37 0.87 -0.85 1.086001842 20.37 8.8 1.768163 -7.71342 7.3656 463 7/11/02 soil standard soilstd071102 36.9 -3.77 3.6 4.64 1.08 4.16 1.4 8.8 1.768162888 12.08 6.78 1.082312 2.84394 4.78764 Batch#7 464 7/11/02 EPA Special Sample#1 30D 29.8 1.39 2.34 4.28 0.67 2.5 0.85 6.78 1.082312339 13.63 6.35 1.188108 -1.98462 4.86948 Batch#7 7/11/02 EPA Special 465 Sample#2 30D 28.6 -0.97 2.38 1.58 0.7 4.77 0.96 6.35 1.188107739 11.39 6.23 0.990202 -3.92832 4.13292 Batch#7 466 7/11/02 EPA Special Sample#3 30D 30.9 -1.922.02 3.52 0.61 2.71 0.78 6.23 0.990202 11.31 7.45 1.01671 2.72118 4.5012 Batch#7 467 7/11/02 EPA Special Sample#4 30D 29 1.33 22 5.43 0.64 2.02 0.79 7.45 1.016710382 14.11 4.33 1.130708 0.98208 4.93086 Batch#7 -0.98208 6.48582 29.1 0.48 3.02 0.71 1.31 0.88 4.33 1.130707743 13.05 38.25 1.466492 468 7/11/02 EPA Special Sample#5 30D 2.41 Batch#8 Sample#1 30D 30.7 21.96 0.91 16.29 16.87 37.64 1.980404 19.92804 8.9001 469 7/11/02 EPA Special -0.483.17 1.15 38.25 1.466492414 Batch#8 20.44 6.09708 470 Sample#2 30D 31.8 9.74 4.35 1.22 17.2 1.56 37.64 1.980403999 11.94 38.84 1.388416 -1.5345 7/11/02 EPA Special Batch#8 471 7/11/02 EPA Special Sample#3 30D 32.5 -0.752.98 22.29 0.86 16.55 1.09 38.84 1.388416364 16.45 34.7 1.878776 -0.92078.34768 Batch#8 7/11/02 EPA Special Sample#4 30D 32.1 20.67 1.17 14.03 1.47 34.7 1.878776197 15.35 36.79 1.808535 -4.95132 7.89756 472 -0.454.08 Batch#8 7/11/02 EPA Special Sample#5 30D 9.41 1.662077 10.06632 7.3656 473 31.3 -2.42 3.86 21.4 1.12 15.39 1.42 36.79 1.808535319 15.73 7/11/02 exclusion zone S1220 H-8 5.27868 474 35.8 4.92 3.6 5.49 1.01 3.92 1.32 9.41 1.662077014 15.23 3.46 1.256025 -0.7161\$1221 E-19 7/11/02 overburden OB#1 2.58 2.65 0.76 0.81 3.46 1.256025477 3.96 1.396281 -6.85415.8311 475 34.5 -0.351 15.3 S1222 E-19 476 7/11/02 overburden OB#2 35.6 -3.352.85 4.21 0.86 -0.253.96 1.396280774 13 4.75 1.142016 -9.84126 4.66488 1.1 S1223 E-19 477 7/11/02 overburden OB#3 36.6 -4.81 2.28 3.15 0.69 1.6 0.91 4.75 1.142015762 16.91 3.59 1.428006 8.34768 6.26076

Nutranl Gamma Spec Report- 341 East Ohio Street Site Complete File of Nutrani Samples Sample U-238 Th-232 Ra-226 Sample Sample Description Weight U-238 Th-232 Ra-226 Total Radium | Total Radium ιD Date Group Activity Uncertainty Activity Uncertainty Activity Uncertainty Activity Uncertainty S1224 E-19 4.08 2.39 478 7/11/02 overburden OR#4 36.3 3.06 1.2 0.86 1.14 3.59 1.428005602 14.37 3.82 1.226132 -6.09708 5.17638 S1225 E-19 OB 2.94 35.4 -2.982.53 0.88 479 7/11/02 overburden QC 0.75 0.97 3.82 1.22613213 14.81 5.42 1.330038 -0.47058 5.4219 S1226 E-G/2-4 2.02 480 7/11/02 Pre EPA Pre EPA 27.2 -0.232.65 0.79 3.4 1.07 5.42 1.330037593 12.65 4.08 1.052093 -8.02032 4.23522 S1227 E-G/4-6 1.03 25.6 -3.92 2.07 481 7/11/02 Pre EPA Pre EPA 0.62 3.05 0.85 4.08 1.052093152 16.38 2.11 1.370036 2.72118 5.85156 S1228 E-G/6-8 482 7/11/02 Pre EPA Pre EPA 27.4 1.33 2.86 21 0.83 0.01 1.09 2.11 1.370036496 13.69 2.81 1.164002 -1.1253 4.8081 S1229 E-G/8-10 1.02 483 Pre EPA 28.9 -0.55 2.35 1.79 0.93 7/11/02 Pre EPA 0.7 2.81 1.164001718 15.35 4.28 1.620494 3.02808 6.5472 S1230 E-F/10-11 Pre EPA 1.48 1.07 3.21 1.32 484 7/11/02 Pre EPA 28.7 3.2 0.94 4.28 1.620493752 14.4 0.31 1.131592 7.161 4.62396 485 bkg071202 7.5 3.5 2.26 -1.240.63 1.55 0.94 -1.3299 7/12/02 background 0.31 1.131591799 15.64 7.24 1.502431 6.5472 486 7/12/02 soil standard soilstd071202 36.9 -0.65 3.2 4.69 0.93 2.55 1.18 7.24 1.502431363 14.81 13.26 1.393126 -4.74672 6.17892 Batch#9 487 7/12/02 EPA Special Sample#1 30D 32.2 -2.32 3.02 10 0.88 3.26 1.08 13.26 1.393125981 12.83 9.3 1.280625 8.26584 5.79018 Batch#9 488 7/12/02 EPA Special Sample#2 30D 32.8 4.04 2.83 6.72 0.8 2.58 9.3 1.280624847 7.67 12.62 0.804301 0.45012 3.53958 1 Batch#9 489 7/12/02 EPA Special Sample#3 30D 33.9 0 22 1.73 8.8 0.5 3.82 0.63 12.62 0.804300939 13.87 9.38 1.224418 9.96402 5.40144 Batch#9 490 7/12/02 EPA Special Sample#4 30D 32.1 4.87 2.64 4.69 0.76 4.69 0.96 9.38 1.224418229 12.67 13.94 1.332254 1.75956 5.76972 Batch#9 491 7/12/02 EPA Special Sample#5 30D 36.5 0.86 2.82 7.1 0.82 6.84 1.05 13.94 1.33225373 14.22 4.36 1.180042 6.21984 5.05362 S1231 E-G/4-6 32 3.04 1.83 2.53 492 7/12/02 EPA EPA#1 2.47 0.7 0.95 4.36 1.180042372 10.17 5.54 0.890225 0.7161 3.84648 S1232 E-G/4-6 0.35 2.38 493 7/12/02 EPA EPA#2 32.1 1.88 3.16 0.55 0.7 5.54 0.890224691 9.15 4.26 0.826196 4.97178 3.64188 S1233 E-G/4-6 494 7/12/02 EPA **EPA #3** 31.3 2.43 1.78 3.38 0.51 0.88 0.65 4.26 0.826196103 12.41 6.9 1.212106 11.90772 5.36052 S1234 E-G/4-6 2.59 0.96 3.42 0.894036 -4.76718 495 7/12/02 EPA EPA#4 29.1 5.82 2.62 4.31 0.74 6.9 1.212105606 10.95 3.60096 S1235 E-G/4-6 2.37336 496 7/12/02 EPA 29.5 -2.33 0.75 0.53 2.67 0.72 3.42 0.894035793 10.93 3.18 0.978008 4.13292 EPA #5 1.76 S1236 E-G/2-4 1.94 1.24 0.78 3.18 0.97800818 12.27 3.88 1.058017 11.37576 4.68534 497 7/12/02 EPA EPA#1 28.5 1.16 2.02 0.59 S1237 E-G/2-4 1.53 2.35 0.85 3.88 1.058017013 13.63 3.23 1.198541 4.48074 4.95132 498 7/12/02 EPA EPA #2 23.8 5.56 2.29 0.63 S1238 E-G/2-4 499 0.01 3.22 0.98 14.14 2.74 1.220041 11.60082 5 40144 7/12/02 EPA **EPA #3** 30.1 2.19 2.42 0.69 3.23 1.198540779 S1239 E-G/2-4 500 7/12/02 EPA EPA #4 1.39 1.35 0.97 10.2 2.81 0.846286 6.01524 3.53958 5.67 2.64 0.74 2.74 1.220040983 28.3 S1240 E-G/2-4 501 7/12/02 EPA EPA #5 28.6 2.94 1.73 -0.25 0.49 3.06 0.69 2.81 0.846286004 11.05 1.38 0.884081 0.26598 3.6828 S1241 E-G/6-8 8.61 2.49 0.722011 3.04854 502 7/12/02 EPA EPA #1 32.8 0.13 1.8 0.79 0.54 0.59 0.7 1.38 0.884081444 8.184 S1242 E-G/6-8 -0.75702 503 7/12/02 EPA EPA#2 32.9 4 1.49 0.2 0.43 2 29 0.58 2.49 0.72201108 11 22 29 0 966075 3.9897 S1243 E-G/6-8 7/12/02 EPA **EPA #3** 14.3 2.32 1.216059 -1.37082 5.03316 504 30.4 -0.371.95 1.1 0.57 1.8 0.78 2.9 0.966074531

Complete File of Nutran Samples Sample Discretion Weight U-28 U-38 Th-232 Th-232 Ra-226 Total Radium Tourisation T		<u> </u>							_ [_	,			,	1	,		(
	N	utranl	Gamma S	pec Report-	341 East	Ohio S	treet Sit	е										
Date Date Croup SIZ44 E-CR0-8 284 -0.07 2.40 0.56 0.72 1.75 0.98 2.32 1216059209 11.11 1.79 0.9160795 5.06 7.1202 EPA EPA 45 3.03 2.44 1.9 0.62 0.54 1.17 0.74 1.79 0.91607959 11.68 3.9 1.008018 5.07 7.1202 EPA EPA 45 0.07 2.40 0.09 0.08 0.29 0.81 0.91 0.91607959 11.68 0.91 0.08018 0.97 0.98 0.97 0.81 0.99 0.81 0.91	- 1		File of Nutra	ıni Samples														
Size 4 E-Gree Size 5 E-Gree Size 5 E-Gree Size 5 E-Gree Size 5 E-Gree Size 6 E-Gre		- 	' <u>-</u>	Description	Weight													
505 71/202 EPA	ID	Date	Group			Activity	Uncertainty	Activity	Uncertainty	Activity	Uncertainty	Activity	Uncertainty					
S1245 E-CiG-8 S1246 E-CiG-8 S1247 E-CiG-8 S1249 E-Cig-	505	7/12/02	EPA		28.4	-0.67	2.46	0.56	0.72	1.76	0.98	2.32	1.216059209	11.11	1.79	0.916079	4.99224	3.8874
S1266 E-G9-10 S124 E-G9-10 S12	000												,,_,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			0 0 10010	1.0022	
Section First Section Sectio	506	7/12/02	EPA		30.3	2.44	1.9	0.62	0.54	1.17	0.74	1.79	0.916078599	11 68	3 9	1.008018	4.84902	4 21476
Size Fig. Size Fig. Size Fig. Size	507	7/12/02	EPA		30.2	2.37	2.06	0.99	0.6	2.91	0.81	3.9	1.008017857	13.32	1.32	1.086002	6.87456	4.8081
Strate E-GB-10 FPA #5 29.6 -0.12 2 0.49 0.6 2.69 0.84 3.18 0.93279032 10.82 2.63 0.958019 510 71/202 EPA FPA #4 26.7 -0.92 1.88 0.86 0.57 1.77 0.77 2.63 0.958018789 11.32 2.08 0.9802 511 71/202 EPA FPA #4 26.7 -0.92 1.88 0.88 0.54 1.2 0.73 2.08 0.9601889 11.32 2.08 0.9802 511 71/202 exclusion zone S1251 H-3 20.7 -1.789 11.16 115.42 3.15 70.21 3.92 185.63 5.028907016 63.37 205.38 9.39486 513 71/202 exclusion zone S1252 H-4 23.6 -93.98 21.47 187.35 6.16 18.03 7.02 205.38 9.39486007 43.87 137.44 6.2417395 514 71/202 exclusion zone S1253 H-3.5 21.2 -44.82 14.58 128.81 4.13 8.63 4.68 137.44 6.24173854 27.04 33.78 3.379601 515 71/202 exclusion zone S1254 H-5 27.1 -4.66 7.18 20.55 2.11 13.23 2.64 33.78 3.379600568 111.6 456.99 16.58903 517 71/502 exclusion zone S1254 H-5 27.1 -4.66 7.18 20.55 2.11 13.23 2.64 33.78 3.379600568 111.6 456.99 16.58903 517 71/502 exclusion zone S1254 H-5 27.1 -4.66 7.18 20.55 2.11 13.23 2.64 33.78 3.379600568 111.6 456.99 16.58903 3.17 71/502 exclusion zone S1254 H-5 3.93 0.42 3.77 5.30 2.56 -0.75 0.81 2.01 1.14 1.26 3.98463442 19.64 6.79 17.21046 519 71/502 exclusion zone S1257 H-5 3.93 0.42 3.77 5.39 1.08 1.01 1.14 1.26 3.98463442 19.64 6.79 17.21046 519 71/502 exclusion zone S1257 H-8 3.37 5.77 5.45 9.44 1.85 1.99 3.71 1.34 1.556 1.727338994 23.91 12.65 2.416154 2.21 71/502 exclusion zone S1257 H-8 3.37 5.77 5.45 9.44 1.38 2.91 1.87 1.285 2.416153989 1.39 0.04 1.750482 3.25 71/602 exclusion zone S1257 H-8 3.37 5.77 5.45 9.44 1.38 3.29 1.17 1.74 1				S1247 E-G/8-10														
Solid First Part Start	508	7/12/02	EPA		27.5	3.36	2.35	1	0.65	0.32	0.87	1.32	1.086001842	11.23	3.18	1.032279	-0.24552	4.092
S1249 E-Gl94-10 FPA #4 26.7 0.92 1.88 0.86 0.57 1.77 0.77 2.63 0.958015789 11.32 2.08 0.90802	509	7/12/02	EPA		29.6	-0.12	2	0.49	0.6	2.69	0.84	3.18	1.032279032	10.82	2.63	0.958019	-1.88232	3.84648
S1250 E-G8-10 511 7/12/02 EPA 5																		
511 7/12/02 EPA EPA #5 27 0.63 1.88 0.88 0.54 1.2 0.73 2.08 0.908019824 37.67 18.66.3 5.028807 512 7/12/02 exclusion zone S1251 H-3 20.7 -17.89 11.16 115.42 3.15 70.21 3.92 185.63 5.02880716 6.37 20.538 9.339486 513 7/12/02 exclusion zone S1252 H-4 23.6 -93.98 21.47 187.35 6.16 18.03 7.02 205.38 9.339486067 43.87 137.44 6.2417395 514 7/12/02 exclusion zone S1253 H-3.5 21.2 -44.82 14.55 12.881 4.13 8.63 4.68 137.44 6.24173954 27.04 33.78 3.3786056 11.6 45.69 16.5800777 16.54 1.64 6.99 16.5802777 16.54 1.62 1.93 1.92 5.02 12.48 45.69 16.5802777 16.54 1.67 17.71502 background of brigg/17502 75 3.01 2.5	510	7/12/02	EPA		26.7	-0.92	1.88	0.86	0.57	1.77	0.77	2.63	0.958018789	11.32	2.08	0.90802	1.28898	3.84648
512 7/12/02 exclusion zone S1251 H-3 20 7 -17.89 11.16 115.42 3.15 70.21 3.92 185.63 5 028807016 63.37 20.538 9.3394866 513 7/12/02 exclusion zone S1252 H-4 23.6 9.93.98 21.47 187.95 8.16 18.03 7.02 20.538 9.339486067 43.87 137.44 6.2417395 514 7/12/02 exclusion zone S1253 H-3.5 21.2 -44.82 14.58 12.881 4.13 8.63 4.68 137.44 6.24173954 27.04 33.78 3.379601 515 7/12/02 exclusion zone S1254 H.5-4 27.1 -4.66 7.18 20.55 21.11 13.23 2.64 33.78 3.379600568 111.6 456.99 16.58303 516 7/12/02 exclusion zone S1255 H-5-3 24.8 1.79.85 38.48 406.97 10.92 50.02 12.48 456.99 16.58302747 16.54 12.6 1.393463 517 7/15/02 background big0715/02 7.5 3.01 2.56 -4.75 0.81 2.01 1.14 1.26 1.393463442 19.64 6.79 1.7210466 518 7/15/02 background big0715/02 7.5 -0.06 1.91 -0.17 0.57 0.22 0.79 0.05 0.97416631 11.64 0.00 1.730462 520 7/15/02 exclusion zone S1256 H-8-3 30.7 4.35 3.84 11.85 1.09 3.71 1.34 15.56 1.727338949 23.91 12.85 2.416154 522 7/15/02 exclusion zone S1256 H-8-3 30.7 4.35 3.84 11.85 1.09 3.71 1.34 15.56 1.727338949 23.91 12.85 2.416154 523 7/15/02 exclusion zone S1256 H-8-3 30.7 4.35 3.84 11.85 1.09 3.71 1.34 15.56 1.727338949 23.91 12.85 2.416154 524 7/15/02 exclusion zone S1256 H-8-3 30.7 4.35 3.84 11.85 1.09 3.71 1.34 15.56 1.727338949 23.91 12.85 2.416154 525 7/15/02 exclusion zone S1256 H-8-3 30.7 4.35 3.84 11.85 1.09 3.71 1.34 15.56 1.727338949 23.91 12.85 2.416154 526 7/15/02 exclusion zone S1256 H-8-3 30.7 4.35 3.84 11.85 1.09 3.71 1.34 15.56 1.727338949 23.91 12.85 2.416154 527 7/15/02 exclusion zone S1256 H-8-3 30.7 4.35 3.84 11.85 3.55 1.26 3.55 1.66 7.1 2.084034549 15.27 7.1 2.084035 527 7/15/02 exclusion zone S1256 H-8-3 30.3 3.83 3.9 4.25 1.17 3.83 1.07 4.98 1.342013413 3.88 6.21 0.784092 527 7/15/02 exclusion zone S1256 H-8-3 30.3 3.83 3.9 4.25 1.17 3.83 1.07 4.98 1.342013413 3.88 6.21 0.784092 527 7/15/02 exclusion zone S1256 H-9 18.5 0.42 1.65 3.17 0.48 3.04 0.62 6.21 0.78409183 2.02 6.83 1.804134 528 7/15/02 exclusion zone S1256 H-9 18.5 0.42 4.84 5.93 6.95 1.14 0.99 1.24 1.15 7.25 1.466492414 486.0 7 459	511	7/12/02	EPA		27	0.63	1.88	0.88	0.54	1.2	0.73	2.08	0.908019824	37.67	185.63	5.028807	-36.6029	22.83336
513 7/12/02 exclusion zone S1252 H-4 23.6 -93.98 21.47 187.35 6.16 18.03 7.02 205.38 9.339486067 43.87 137.44 6.241739 514 7/12/02 exclusion zone S1253 H-3.5 21.2 -44.82 14.58 128.81 4.13 8.63 4.68 137.44 6.24173854 27.04 33.78 3.79601 515 7/12/02 exclusion zone S1254 H.5-4 27.1 -4.66 7.18 20.55 2.11 13.23 2.64 33.78 3.379600568 111.6 456.99 16.58303 516 7/12/02 exclusion zone S1255 H.5-3 24.8 179.85 38.48 406.97 10.92 50.02 12.48 456.99 16.58302747 16.54 1.26 1.398463 517 7/15/02 background bkg07/1502 7.5 -3.01 2.56 -0.75 0.81 2.01 1.14 1.26 1.399463442 19.64 6.79 1.721046 518 7/15/02 soil standard soilstd07/1502 36.9 0.42 3.77 5.39 1.08 1.4 1.34 6.79 1.721046193 11.43 0.05 0.974166 519 7/15/02 soil standard soilstd0/271502 36.9 4.45 3.78 5.98 1.07 3.06 1.36 9.04 1.730462366 18.08 15.56 1.727339 521 7/15/02 exclusion zone S1256 H.8-3 30.7 4.35 3.84 11.85 1.09 3.71 1.34 15.56 1.727338994 23.91 12.85 2.416154 522 7/15/02 exclusion zone S1256 H.8-3 30.7 4.35 3.84 11.85 1.09 3.71 1.34 15.56 1.727338994 23.91 12.85 2.416154 523 7/16/02 exclusion zone S1256 H.8-3 30.7 4.35 3.84 11.85 1.09 3.71 1.34 15.56 1.727338994 23.91 12.85 2.416154 524 7/15/02 exclusion zone S1256 H.8-3 30.7 4.35 3.84 11.85 1.09 3.71 1.34 15.56 1.727338994 23.91 12.85 2.416154 525 7/15/02 exclusion zone S1256 H.8-3 30.7 4.35 3.84 11.85 1.09 3.71 1.34 15.56 1.727338994 23.91 12.85 2.416154 525 7/15/02 exclusion zone S1257 H.8-4 33.7 5.77 5.45 9.94 1.53 2.91 1.87 12.85 2.416153969 13.39 -0.04 1.060169 526 7/16/02 exclusion zone S1257 H.8-4 33.7 5.77 5.45 9.94 1.53 2.91 1.87 12.85 2.416153969 13.39 -0.04 1.060169 527 7/16/02 exclusion zone S1258 H.5-8.5 21 -3.39 4.18 3.55 1.26 3.55 1.66 7.1 2.084034549 15.27 7.1 2.084035 526 7/16/02 exclusion zone S1258 H.5-8.5 21 -3.39 4.18 3.55 1.26 3.55 1.66 7.1 2.084034549 15.27 7.1 2.084035 527 7/16/02 exclusion zone S1258 H.5-8.5 21 -3.39 4.86 2.66 1.7 0.81 3.28 1.07 4.98 1.342013413 8.8 6.21 0.784092 527 7/16/02 exclusion zone S1260 H.9 18.5 0.42 1.65 3.17 0.48 3.04 0.02 6.21 0.784091831 20.21 6.83 1.804134													•					
514 7/12/02 exclusion zone S1253 H-3.5 21.2 -44.82 14.58 128.81 4.13 8.63 4.68 137.44 6.24173854 27.04 33.78 3.3796015 515 7/12/02 exclusion zone S1254 H.5-4 27.1 -4.66 7.18 20.55 2.11 13.23 2.64 33.78 3.379600568 111.6 456.99 16.58303 516 7/12/02 exclusion zone S1255 H.5-3 24.8 179.85 38.48 406.97 10.92 50.02 12.48 456.99 16.58302747 16.54 1.26 1.398463442 19.64 6.79 1.721046193 516 7/15/02 background bkg071502 7.5 -3.01 2.56 -0.75 0.81 2.01 1.14 1.26 1.398463442 19.64 6.79 1.721046193 517 7/15/02 background bkg071502 36.9 0.42 3.77 5.39 1.08 1.4 1.34 6.79 1.721046193 11.43 0.05 0.9741661 519 7/15/02 background bkg071502 36.9 0.42 3.77 5.39 1.08 1.4 1.34 6.79 1.721046193 11.43 0.05 0.9741661 519 7/15/02 background bkg071502 36.9 0.42 3.77 5.59 1.08 1.4 1.34 6.79 1.721046193 11.43 0.05 0.9741661 519 7/15/02 background bkg071502 36.9 0.44 3.78 5.98 1.07 3.06 1.36 9.04 1.730462366 18.08 15.56 1.727339 521 7/15/02 exclusion zone S1256 H.8-3 30.7 4.35 3.84 11.85 1.09 3.71 1.34 15.56 1.727338994 23.91 12.85 2.416154 52.2 7/15/02 exclusion zone S1257 H.8-4 33.7 5.77 5.45 9.94 1.53 2.91 1.87 12.85 2.416153999 13.39 -0.04 1.060189 52.3 7/16/02 exclusion zone S1258 H.5-8.5 21 3.39 4.18 3.55 1.26 3.55 1.66 7.1 2.084034549 15.27 4.98 1.342013 52.2 7/16/02 exclusion zone S1258 H.5-8.5 21 3.39 4.18 3.55 1.26 3.55 1.66 7.1 2.084034549 15.27 4.98 1.342013 52.2 7/16/02 exclusion zone S1258 H.5-8.5 21 3.39 4.18 3.55 1.26 3.55 1.66 7.1 2.084034549 15.27 4.98 1.342013 52.2 7/16/02 exclusion zone S1260 I.9 18.5 0.42 1.65 3.17 0.48 3.04 0.62 6.21 0.784091831 2.021 6.83 1.804134 52.2 7/16/02 exclusion zone S1261 I.9.5 30 3.83 3.9 4.25 1.1 2.58 1.43 6.83 1.804134141 17.87 8.26 1.824281 52.9 7/16/02 exclusion zone S1261 I.9.5 30 3.83 3.9 4.25 1.1 2.58 1.43 6.83 1.804134141 17.87 8.26 1.824281 52.9 7/16/02 exclusion zone S1261 I.9.5 30 3.83 3.9 4.25 1.1 2.58 1.43 6.83 1.804134141 17.87 8.26 1.824281 52.9 7/16/02 exclusion zone S1261 I.9.5 30 3.85 1.54 0.09 3.89 1.09 4.20 1.33 1.44 8.26 1.82428068 16.79 7.25 1.466492 7/16/02 exclusion z	512	7/12/02	exclusion zone	S1251 H-3	20.7	-17.89	11.16	115.42	3.15	70.21	3.92	185.63	5 028807016	63.37	205.38	9.339486	-192.283	43.92762
515 7/12/02 exclusion zone S1254 H.5-4	513	7/12/02	exclusion zone	S1252 H-4	23.6	-93.98	21.47	187.35	6.16	18.03	7.02	205.38	9.339486067	43.87	137.44	6.241739	-91.7017	29.83068
516 7/12/02 exclusion zone S1255 H.5-3 24.8 -179.85 38.48 406.97 10.92 50.02 12.48 456.99 16.58302747 16.54 1.26 1.399463 517 7/15/02 background bkg071502 7.5 -3.01 2.56 -0.75 0.81 2.01 1.14 1.26 1.399463442 19.64 6.79 1721046 518 7/15/02 background bkg071502 7.5 -3.01 2.56 -0.75 0.81 2.01 1.14 1.26 1.399463442 19.64 6.79 1721046 519 7/15/02 background bkg071602 7.5 -0.36 1.91 -0.17 0.57 0.22 0.79 0.05 0.97416631 1.66 4.94 1.730462366 18.08 15.56 1.727339 521 7/15/02 exclusion zone S1256 H.8-3 30.7 4.35 3.84 11.85 1.09 3.71 1.34 15.56 1.727339994 23.91 12.85 2.416154 522 7/15/02 exclusion zone <td>514</td> <td>7/12/02</td> <td>exclusion zone</td> <td>\$1253 H-3.5</td> <td>21.2</td> <td>-44.82</td> <td>14.58</td> <td>128.81</td> <td>4.13</td> <td>8.63</td> <td>4.68</td> <td>137.44</td> <td>6.24173854</td> <td>27.04</td> <td>33.78</td> <td>3.379601</td> <td>-9.53436</td> <td>14.69028</td>	514	7/12/02	exclusion zone	\$1253 H-3.5	21.2	-44.82	14.58	128.81	4.13	8.63	4.68	137.44	6.24173854	27.04	33.78	3.379601	-9.53436	14.69028
517 7/15/02 background bkg071502 7.5 -3.01 2.56 -0.75 0.81 2.01 1.14 1.26 1.398463442 1.964 6.79 1.721046 518 7/15/02 soil standard soilstid071502 36.9 0.42 3.77 5.39 1.08 1.4 1.34 6.79 1.721046193 11.40 520 7/15/02 soil standard soilstid(2)71502 7.5 -0.36 1.91 -0.17 0.57 0.22 0.79 0.05 0.97416631 16.64 9.04 1.730462366 18.08 15.56 1.727339 521 7/15/02 exclusion zone S1256 H.8-3 30.7 4.35 3.84 11.85 1.09 3.71 1.34 15.56 1.727338994 23.91 12.85 2.416154 522 7/15/02 exclusion zone S1257 H.8-4 33.7 5.77 5.45 9.94 1.53 2.91 1.87 12.85 2.416153969 13.39 -0.04 1.060189 522 7/16/02 exclusion zone S1258	515	7/12/02	exclusion zone	S1254 H.5-4	27.1	-4.66	7.18	20.55	2.11	13.23	2.64	33.78	3.379600568	111.6	456.99	16.58303	-367.973	78.73008
517	516	7/12/02	exclusion zone	S1255 H 5-3	24 8	-179 85	38 48	406.97	10.92	50.02	12.48	456 99	16 58302747	16 54	1 26	1 398463	-6.15846	5.23776
519 7/15/02 background 5kg(2)71502 7.5 -0.36 1.91 -0.17 0.57 0.22 0.79 0.05 0.97416631 16.64 9.04 1.730462 520 7/15/02 soil standard soilstd(2)71502 36.9 4.45 378 5.98 1.07 3.06 1.36 9.04 1.730462366 18.08 15.56 1.727339 521 7/15/02 exclusion zone S1256 H.8-3 30.7 4.35 3.84 11.85 1.09 3.71 1.34 15.56 1.727338994 23.91 12.85 2.416154 522 7/15/02 exclusion zone S1257 H.8-4 33.7 5.77 5.45 9.94 1.53 2.91 1.87 12.85 2.416153969 13.39 -0.04 1.060189 523 7/16/02 background bkg071602 7.5 1.84 2.19 -0.13 0.62 0.09 0.86 -0.04 1.060188662 15.91 6.43 1.366528 524 7/16/02 soil standard soilstd071602 36.9 6.37 3.03 4.45 0.85 1.98 1.07 6.43 1.366528448 22.71 7.1 2.084035 525 7/16/02 exclusion zone S1258 H.5-8.5 21 -3.39 4.18 3.55 1.26 3.55 1.66 7.1 2.084034549 15.27 4.98 1.342013 526 7/16/02 exclusion zone S1259 I-7.5 22.5 -2.48 2.66 1.7 0.81 3.28 1.07 4.98 1.342013413 8.8 6.21 0.784092 527 7/16/02 exclusion zone S1260 I-9 18.5 0.42 1.65 3.17 0.48 3.04 0.62 6.21 0.784091831 20.21 6.83 1.804134 529 7/16/02 exclusion zone S1261 I-9.5 30 3.83 3.9 4.25 1.1 2.58 1.43 6.83 1.804134141 17.87 8.26 1.8242816 529 7/16/02 exclusion zone S1261 I-9.5 30 3.01 3.82 4.43 1.12 3.83 1.44 8.26 1.82428068 16.79 7.25 1.466492414 4863 07 4598 69 745.977 531 7/16/02 exclusion zone S1263 48.8 -5936.95 1542.04 3809.19 482.01 789.5 569.34 4598.69 745.9769941 17.49 10.46 1.622899 532 7/16/02 exclusion zone S1264 29.3 -3.15 3.16 1.54 0.93 8.92 1.33 10.46 1.62289641 12.29 -0.26 0.974166					and the second of the second	÷		-									0.85932	
520 7/15/02 soil standard soilstd(2)71502 36.9 4.45 3.78 5.98 1.07 3.06 1.36 9.04 1.730462366 18.08 15.56 1.727339 521 7/15/02 exclusion zone S1256 H.8-3 30.7 4.35 3.84 11.85 1.09 3.71 1.34 15.56 1.727338994 23.91 12.85 2.416154 522 7/15/02 exclusion zone S1257 H.8-4 33.7 5.77 5.45 9.94 1.53 2.91 1.87 12.85 2.416153969 13.39 -0.04 1.060189 523 7/16/02 exclusion zone bkg071602 7.5 1.84 2.19 -0.13 0.62 0.09 0.86 -0.04 1.060188662 15.91 6.43 1.366528 524 7/16/02 soil standard soilstd071602 36.9 6.37 3.03 4.45 0.85 1.98 1.07 6.43 1.366528448 22.71 7.1 2.084035 525 7/16/02 exclusion zone S1258 H.5-8.5 21 -3.39 4.18 3.55 1.26 3.55 1.66 7.1 2.084034549 15.27 4.98 1.342013 526 7/16/02 exclusion zone S1259 I-7.5 22.5 -2.48 2.66 1.7 0.81 3.28 1.07 4.98 1.34201313 8.8 6.21 0.784092 527 7/16/02 exclusion zone S1260 I-9 18.5 0.42 1.65 3.17 0.48 3.04 0.62 6.21 0.784091831 20.21 6.83 1.804134 528 7/16/02 exclusion zone S1261 I-9.5 30 3.83 3.9 4.25 1.1 2.58 1.43 6.83 1.804134141 17.87 8.26 1.824281 529 7/16/02 exclusion zone S1261 I-9.5 30 3.83 3.9 4.25 1.1 2.58 1.43 6.83 1.804134141 17.87 8.26 1.824281 529 7/16/02 exclusion zone S1263 48.8 -5936.95 1542.04 3809.19 482.01 789.5 569.34 4598.69 745.9769941 17.49 10.46 1.622899 532 7/16/02 exclusion zone S1264 29.3 -3.15 3.16 1.54 0.93 8.92 1.33 10.46 1.62289641 12.29 -0.26 0.974166	518	7/15/02	soil standard	soilstd071502	36.9	0.42	3.77	5.39	1.08	1.4	1.34	6.79	1.721046193	11.43	0.05	0.974166	-0.73656	3.90786
521 7/15/02 exclusion zone S1256 H.8-3 30.7 4.35 3.84 11.85 1.09 3.71 1.34 15.56 1.727338994 23.91 12.85 2.416154 522 7/15/02 exclusion zone S1257 H.8-4 33.7 5.77 5.45 9.94 1.53 2.91 1.87 12.85 2.416153969 13.39 -0.04 1.060189 523 7/16/02 background bkg071602 7.5 1.84 2.19 -0.13 0.62 0.09 0.86 -0.04 1.060188662 15.91 6.43 1.366528 524 7/16/02 soil standard soilstd071602 36.9 6.37 30.3 4.45 0.85 1.98 1.07 6.43 1.366528448 22.71 7.1 2.084035 525 7/16/02 exclusion zone S1258 H.5-8.5 21 -3.39 4.18 3.55 1.26 3.55 1.66 7.1 2.084034549 15.27 4.98 1.342013 526 7/16/02 exclusion zone S1259 I-7.5 22.5 -2.48 2.66 1.7 0.81 3.28 1.07 4.98 1.342013413 8.8 6.21 0.784092 527 7/16/02 exclusion zone S1260 I-9 18.5 0.42 1.65 3.17 0.48 3.04 0.62 6.21 0.784091831 20.21 6.83 1.8041344 528 7/16/02 exclusion zone S1261 I-9.5 30 3.83 3.9 4.25 1.1 2.58 1.43 6.83 1.804134141 17.87 8.26 1.8242816 529 7/16/02 exclusion zone S1261 I-9.5 30 3.83 3.9 4.25 1.1 2.58 1.43 6.83 1.804134141 17.87 8.26 1.8242816 529 7/16/02 exclusion zone S1262 I.5-9.5 34.5 -2 3.15 6.01 0.91 1.24 1.15 7.25 1.466492414 4863.07 4598.69 745.977 531 7/16/02 exclusion zone S1263 48.8 6936.95 1542.04 3809.19 482.01 789.5 569.34 4598.69 745.9769941 17.49 10.46 1.6228999 532 7/16/02 exclusion zone S1264 29.3 -3.15 3.16 1.54 0.93 8.92 1.33 10.46 1.622898641 12.29 -0.26 0.974166	519	7/15/02	background	bkg(2)71502	7.5	-0.36	1.91	-0.17	0.57	0.22	0.79	0.05	0.97416631	16.64	9.04	1.730462	9.1047	7.73388
522 7/15/02 exclusion zone 51257 H.8-4 33.7 5.77 5.45 9.94 1.53 2.91 1.87 12.85 2.416153969 13.39 -0.04 1.060189 523 7/16/02 background bkg071602 7.5 1.84 2.19 -0.13 0.62 0.09 0.86 -0.04 1.060188662 15.91 6.43 1.366528 524 7/16/02 soil standard soilstd071602 36.9 6.37 3.03 4.45 0.85 1.98 1.07 6.43 1.366528448 22.71 7.1 2.084035 525 7/16/02 exclusion zone 51258 H.5-8.5 21 -3.39 4.18 3.55 1.26 3.55 1.66 7.1 2.084034549 15.27 4.98 1.342013 526 7/16/02 exclusion zone 51259 I-7.5 22.5 -2.48 2.66 1.7 0.81 3.28 1.07 4.98 1.342013413 8.8 6.21 0.784092 527 7/16/02 exclusion zone 51260 I-9 18.5 0.42 1.65 3.17 0.48 3.04 0.62 6.21 0.784091831 20.21 6.83 1.804134 528 7/16/02 exclusion zone 51260 I-9 18.5 0.42 1.65 3.17 0.48 3.04 0.62 6.21 0.784091831 20.21 6.83 1.804134 528 7/16/02 exclusion zone 51260 I-9 3.01 3.83 3.9 4.25 1.1 2.58 1.43 6.83 1.804134141 17.87 8.26 1.824281 529 7/16/02 exclusion zone 51262 I.5-9.5 30 3.83 3.9 4.25 1.1 2.58 1.43 6.83 1.804134141 17.87 8.26 1.824281 520 7/16/02 exclusion zone 51262 I.5-9.5 34.5 -2 3.15 6.01 0.91 1.24 1.15 7.25 1.466492414 4863.07 4598.69 745.977 531 7/16/02 exclusion zone 51264 29.3 -3.15 3.16 1.54 0.93 8.92 1.33 10.46 1.622898641 12.29 -0.26 0.974166	520	7/15/02	soil standard	soilstd(2)71502	36.9	4.45	3 78	5.98	1.07	3.06	1.36	9.04	1.730462366	18.08	15.56	1.727339	8.9001	7.85664
523 7/16/02 background bkg071602 7.5 1.84 2.19 -0.13 0.62 0.09 0.86 -0.04 1.060188662 15.91 6.43 1.366528 524 7/16/02 soil standard soilstd071602 36.9 6.37 3.03 4.45 0.85 1.98 1.07 6.43 1.366528448 22.71 7.1 2.084035 525 7/16/02 exclusion zone S1258 H.5-8.5 21 -3.39 4.18 3.55 1.26 3.55 1.66 7.1 2.084034549 15.27 4.98 1.342013 526 7/16/02 exclusion zone S1259 I-7.5 22.5 -2.48 2.66 1.7 0.81 3.28 1.07 4.98 1.342013413 8.8 6.21 0.784092 527 7/16/02 exclusion zone S1260 I-9 18.5 0.42 1.65 3.17 0.48 3.04 0.62 6.21 0.784091831 20.21 6.83 1.804134 528 7/16/02 exclusion zone S1261 I-9.5 30 3.83 3.9 4.25 1.1 2.58 1.43 6.83 1.804134141 17.87 8.26 1.824281 529 7/16/02 soil standard soilstd(2)071602 36.9 3.01 3.82 4.43 1.12 3.83 1.44 8.26 1.82428068 16.79 7.25 1.466492 530 7/16/02 exclusion zone S1262 I.5-9.5 34.5 -2 3.15 6.01 0.91 1.24 1.15 7.25 1.466492414 4863.07 4598.69 745.977 531 7/16/02 exclusion zone S1263 48.8 -5936.95 1542.04 3809.19 482.01 789.5 569.34 4598.69 745.9769941 17.49 10.46 1.622899 532 7/16/02 exclusion zone S1264 29.3 -3.15 3.16 1.54 0.93 8.92 1.33 10.46 1.622898641 12.29 -0.26 0.974166	521	7/15/02	exclusion zone	S1256 H.8-3	30.7	4.35	3.84	11.85	1.09	3.71	1.34	15.56	1.727338994	23.91	12.85	2.416154	11.80542	11.1507
7/16/02 exclusion zone S1261 I-9.5 30 3.83 3.9 4.25 1.1 2.58 1.43 6.83 1.804134141 17.87 8.26 1.824281 529 7/16/02 exclusion zone S1261 I-9.5 3.01 3.03 3.03 3.04 3.04 3.04 3.04 3.04 8.26 1.82428068 16.79 7.25 1.466492414 4863.07 4598.69 745.9769941 17.49 10.46 1.622899 532 7/16/02 exclusion zone S1264 29.3 3.15 3.16 1.54 0.93 8.92 1.33 10.46 1.622898641 12.29 -0.26 0.974166	522	7/15/02	exclusion zone	S1257 H 8-4	33.7	5 77	5.45	9 94	1 53	2 91	1 87	12.85	2 416153969	13 39	-n n4	1 060189	3.76464	4.48074
524 7/16/02 soil standard soilstd071602 36.9 6.37 3.03 4.45 0.85 1.98 1.07 6.43 1.366528448 22.71 7.1 2.084035 525 7/16/02 exclusion zone S1258 H.5-8.5 21 -3.39 4.18 3.55 1.26 3.55 1.66 7.1 2.084034549 15.27 4.98 1.342013 526 7/16/02 exclusion zone S1259 1-7.5 22.5 -2.48 2.66 1.7 0.81 3.28 1.07 4.98 1.342013413 8.8 6.21 0.784092 527 7/16/02 exclusion zone S1260 1-9 18.5 0.42 1.65 3.17 0.48 3.04 0.62 6.21 0.784091831 20.21 6.83 1.804134 528 7/16/02 exclusion zone S1261 1-9.5 30 3.83 3.9 4.25 1.1 2.58 1.43 6.83 1.804134141 17.87 8.26 1.824281 529 7/16/02 soil standard soilstd(2)071602 36.9 3.01 3.82 4.43 1.12 3.83 1.44 8.26 1.82428068 16.79 7.25 1.466492 530 7/16/02 exclusion zone S1262 1.5-9.5 34.5 -2 3.15 6.01 0.91 1.24 1.15 7.25 1.466492414 4863.07 4598.69 745.977 531 7/16/02 exclusion zone S1264 29.3 -3.15 3.16 1.54 0.93 8.92 1.33 10.46 1.622898641 12.29 -0.26 0.974166						-												
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528 7/16/02 exclusion zone S1261 I-9.5 30 3.83 3.9 4.25 1.1 2.58 1.43 6.83 1.804134141 17.87 8.26 1.824281 529 7/16/02 soil standard soilstd(2)071602 36.9 3.01 3.82 4.43 1.12 3.83 1.44 8.26 1.82428068 16.79 7.25 1.466492 530 7/16/02 exclusion zone S1262 I.5-9.5 34.5 -2 3.15 6.01 0.91 1.24 1.15 7.25 1.466492414 4863.07 4598.69 745.977 531 7/16/02 exclusion zone S1263 48.8 -5936.95 1542.04 3809.19 482.01 789.5 569.34 4598.69 745.9769941 17.49 10.46 1.622899 532 7/16/02 exclusion zone S1264 29.3 -3.15 3.16 1.54 0.93 8.92 1.33 10.46 1.622898641 12.29 -0.26 0.974166	526	7/16/02	exclusion zone	S1259 I-7.5	22.5	-2.48	2.66	1.7	0.81	3 28	1.07	4.98	1.342013413	8.8	6.21	0.784092	0.85932	3.3759
529 7/16/02 soil standard soilstd(2)071602 36.9 3.01 3.82 4.43 1.12 3.83 1.44 8.26 1.82428068 16.79 7.25 1.466492 530 7/16/02 exclusion zone S1262 1.5-9.5 34.5 -2 3.15 6.01 0.91 1.24 1.15 7.25 1.466492414 4863.07 4598.69 745.977 531 7/16/02 exclusion zone S1263 48.8 -5936.95 1542.04 3809.19 482.01 789.5 569.34 4598.69 745.9769941 17.49 10.46 1.622899 532 7/16/02 exclusion zone S1264 29.3 -3.15 3.16 1.54 0.93 8.92 1.33 10.46 1.622898641 12.29 -0.26 0.974166	527	7/16/02	exclusion zone	S1260 I-9	18.5	0.42	1.65	3.17	0.48	3.04	0.62	6.21	0.784091831	20.21	6.83	1.804134	7.83618	7.9794
529 7/16/02 soil standard soilstd(2)071602 36.9 3.01 3.82 4.43 1.12 3.83 1.44 8.26 1.82428068 16.79 7.25 1.466492 530 7/16/02 exclusion zone S1262 1.5-9.5 34.5 -2 3.15 6.01 0.91 1.24 1.15 7.25 1.466492414 4863.07 4598.69 745.977 531 7/16/02 exclusion zone S1263 48.8 -5936.95 1542.04 3809.19 482.01 789.5 569.34 4598.69 745.9769941 17.49 10.46 1.622899 532 7/16/02 exclusion zone S1264 29.3 -3.15 3.16 1.54 0.93 8.92 1.33 10.46 1.622898641 12.29 -0.26 0.974166	528	7/16/02	exclusion zone	S1261 I-9 5	30	3 83	3.9	4.25	1.1	2.58	1.43	6.83	1.804134141	17.87	8.26	1.824281	6.15846	7.81572
530 7/16/02 exclusion zone S1262 I.5-9.5 34.5 -2 3.15 6.01 0.91 1.24 1.15 7.25 1.466492414 4863.07 4598.69 745.977 531 7/16/02 exclusion zone S1263 48.8 -5936.95 1542.04 3809.19 482.01 789.5 569.34 4598.69 745.9769941 17.49 10.46 1.622899 532 7/16/02 exclusion zone S1264 29.3 -3.15 3.16 1.54 0.93 8.92 1.33 10.46 1.622898641 12.29 -0.26 0.974166																	-4.092	
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532 7/16/02 exclusion zone S1264 29.3 -3.15 3.16 1.54 0.93 8.92 1.33 10.46 1.622898641 12.29 -0.26 0.974166	530	7/16/02	exclusion zone	S1262 I.5-9.5	34.5	-2	3.15	6.01	0.91	1.24	1.15	7.25	1.466492414	4863.07	4598.69	745.977	-12147	3155 014
	531	7/16/02	exclusion zone	S1263	48.8	-5936.95	1542.04	3809.19	482.01	789.5	569.34	4598.69	745.9769941	17.49	10.46	1.622899	-6.4449	6.46536
533 7/17/02 background bkg071702 7.5 2.23 2.05 0.34 0.57 -0.6 0.79 -0.26 0.97416631 15.3 8.56 1.366528	532	7/16/02	exclusion zone	S1264	29.3	-3.15	3.16	1.54	0.93	8.92	1.33	10.46	1.622898641	12.29	-0.26	0.974166	4.56258	4.1943
	533	7/17/02	background	bkg071702	7.5	2.23	2.05	0.34	0.57	-0.6	0.79	-0.26	0.97416631	15.3	8.56	1.366528	1.86186	6.11754
534 7/17/02 soil standard soilstd071702 36.9 0.91 2.99 5.65 0.85 2.91 1.07 8.56 1.366528448 21.78 8.89 2.002324		7/17/02	soil standard	soilstd071702										21.78	8.89	2.002324	14.54706	9.04332
535 7/17/02 exclusion zone S1265 I-10.5 32.2 7.11 4.42 5.64 1.23 3.25 1.58 8.89 2.00232365 15.6 23.51 2.067873	535	7/17/02	exclusion zone	S1265 I-10 5	32.2	7 11	4 42	5 64	1 23	3 25	1.58	9.89	2.00232365	15.6	23.51	2.067873	-4.41936	9.39114

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<u> </u>			ni Samples	144	11.000			-									
Sample	Sample	Sample	Description	Weight	U-238	U-238	Th-232	Th-232	Ra-226	Ra-226	Total Radium	Total Radium					
ID	Date	Group	,		Activity	Uncertainty	Activity	Uncertainty	Activity	Uncertainty	Activity	Uncertainty	1				ļ
536	7/17/02	exclusion zone	S1266 G.5-11	33.9	-2.16	4.59	20.59	1.31	2.92	1.6	23.51	2.067873304	24.86	21.45	2.491606	-4.17384	11.37576
537	7/17/02	exclusion zone	S1267 G-11	34	-2.04	5.56	18.16	1.6	3.29	1.91	21.45	2.491605908	772.29	1435.89	116.926	-2341.38	535.3564
538	7/17/02	exclusion zone	S1268 I-11	34.7	-1144.37	261.66	1304.63	77.06	131.26	87.94	1435.89	116.9259903	13.89	4.25	1.156028	-2.16876	4.86948
539	7/17/02 I	Pre-EPA	S1269 G-I.5/2-4	31.2	-1.06	2.38	1.77	0.7	2.48	0.92	4.25	1.156027681	14.71	5.68	1.298075	1.3299	5.54466
540	7/17/02	Pre-EPA	S1270 G-I.5/4-6	31.2	0.65	2.71	3.62	0.79	2.06	1.03	5.68	1.298075499	14.61	3.68	1.138112	-1.26852	4.64442
541	7/17/02 I	Pre-EPA	S1271 G-1.5/6-8	35.5	-0.62	2.27	0.29	0.67	3.39	0.92	3.68	1.138112472	16.76	3.03	1.338096	-6.91548	5.46282
542	7/17/02 1	Pre-EPA	S1272 G-1.5/8-9	35.2	-3.38	2.67	1.35	0.79	1.68	1.08	3.03	1.338095662	15.44	0.64	1.218277	-2.6598	4.82856
543		background	bkg071802	7.5	-1.3	2.36		0.71		0.99		1.218277472	17.7		1.754138	8.47044	7.73388
544		soil standard	soilstd071802	36.9	4.14	3.78		1.07		1.39		1.754137965	10.62		1.102588		4.86948
545	7/18/02	exclusion zone		30.1	-0.68	2.38	9.1	0.69	2.31	0.86	11.41	1.102587865	21.76	4.32	1.862069	-1.37082	7.95894
546	7/18/02	overburden	S1274 D-19 OB#1 S1275 D-19	29.6	-0.67	3.89	3.62	1.13	0.7	1.48	4.32	1.862068742	20.74	3.62	1.594553	2.92578	7.0587
547	7/18/02	overburden	OB#2 S1276 D-19	30.2	1.43	3.45	2.74	0.99	0.88	1.25	3.62	1.594553229	18.85	2.96	1.572005	-10.6392	6.2403
548	7/18/02	overburden	OB#3 S1277 D-19 OB	30.2	-5.2	3.05	2.07	0.94	0.89	1.26	2.96	1.572005089	15.71	2.34	1.214002	-3.8874	5.07408
549	7/18/02	overburden	QC	30.3	-1.9	2.48	1.24	0.73	1.1	0.97	2.34	1.214001647	16.29	6.2	1.504161	9.86172	6.83364
550	7/18/02	exclusion zone	S1278 H.5-11	33	4.82	3.34		0.92	1.36	1.19	6.2	1.504160896	17.83	4.9	1.493051	-4.1943	6.50628
551			S1279 G.5-12	31.5	-2.05	3.18		0.94	-			1.493050568	24.82	45.13			15.40638
552		exclusion zone		30	4.02	7.53		2.1		2.46		3.234439673	13.6	-0.54		-3.9897	4.3989
553	7/19/02	packground	bkg071902	7.5	-1.95	2.15	0.56	0.64	-1.1	0.84	-0.54	1.056030303	. 13.77	8.45	1.372771	-1.00254	6.0357
554	7/19/02	soil standard	soilstd071902	36.9	-0.49	2.95	6.68	0.86	1.77.	1.07	8.45	1.37277092	29.46	117.64	3.890823	-61.5232	18.55722
555	7/19/02	exclusion zone	S1281 B.75-6.25	18.5	-30.07	9.07	105.67	2.56	11.97	2.93	117.64	3.890822535	18.67	20.29	1.97952	3.9897	9.207
556	7/19/02	exclusion zone	S1282 F-14	42.2	1.95	4.5	18.28	1.28	2.01	1.51	20.29	1.979520144	17.13	0.69	1.830027	-5.40144	7.161
557	7/22/02	background	bkg072202	7.5	-2.64	3.5	1.61	1.09	-0.92	1.47	0.69	1.830027322	9.93	7.95	0.904268	-1.51404	3.92832
558	7/22/02	soil standard	soilstd072202	36.9	-0.74	1.92	5.29	0.56	2.66	0.71	7.95	0.904267659	10.75	2.35	0.894036	3.15084	3.74418
559	7/22/02	Pre EPA	S1283 E-G/10-12	37.5	1.54	1.83	0.89	0.53	1.46	0.72	2.35	0.894035793	13.78	2.6	1.160172	-7.6725	4.46028
560		Pre EPA	S1284 G-I/9-11	27.1	-3.75	2.18		0.68	1.91	0.94		1.160172401	11.32	3.2	0.958019	4.01016	4.03062
561	7/22/02		S1285 G-I/11-13	32.6	1.96	1.97		0.57		0.77		0.958018789	10.2	2.33		-3.53958	3.33498
562		-	G-I.5/8-9 EPA#1	30.3	-1.73	1.63		0.49		0.66		0.822009732	11.3		0.964002	0.94116	4.11246
563			G-I.5/8-9 EPA#2	32	0.46	2.01		0.58		0.77		0.964002075	9.75		0.808022	-2.046	3.3759
564			G-1.5/8-9 EPA#3	31.1	-1	1.65		0.48		0.77		0.808022277	10.34	2.9	0.85		3.51912
565			G-1.5/8-9 EPA#4	31.3	-1.38	1.00		0.46		0.68			11.52		0.958019	-2.92578	4.03062
566			G-1.5/8-9 EPA#5	30.1	-1.43	1.72				0.00		0.958018789	10.94		0.954254	0.5115	4.03062
1								0.57								0.02046	
567			G-I/9-11 EPA#1	29.4	0.25	2.02		0.59		0.75		0.954253635	12.18		1.038123		4.31706
568			G-I/9-11 EPA#2	29.6	0.01	2.11		0.61		0.84		1.038123307	10.88	3.59		7.4679	4.5012
569			G-I/9-11 EPA#3	29.9	3.65	2.2		0.63		0.83		1.042017274	9.99	4.52		2.80302	3.7851
570			G-I/9-11 EPA#4	31.5	1.37	1.85		0.54				0.908019824	10.41		0.834086	-3.7851	3.49866
571	7/22/02		G-I/9-11 EPA#5	30.3	-1 85		1.71	0.51	*			0.834086326	12.69		1.064002	,	
572	7/22/02	EPA	G-I/11-13 EPA#1	33	-1.17	2.14	0.87	0.64	2.17	0.85	3.04	1.06400188	13.98	2.24	1.092016	-0.83886	4.5012

Nutranl Gamma Spec Report- 341 East Ohio Street Site Complete File of Nutrani Samples Weight U-238 Ra-226 Th-232 Th-232 Sample Sample Sample Description U-238 Ra-226 Total Radium Total Radium Activity Uncertainty Activity 1D Date Group Activity Uncertainty Uncertainty Activity Uncertainty 573 7/22/02 EPA G-I/11-13 EPA#2 33.6 -0.41 2.2 0.64 0.66 1.6 0.87 2.24 1.092016483 12.99 3 1.022008 -5.58558 4.13292 7/22/02 EPA G-I/11-13 EPA#3 33.2 -2.73 2.02 0.33 0.61 2.67 3 1.022007828 574 0.82 10.13 3.19 0.820061 -12.0305 3.25314 7/22/02 EPA G-I/11-13 EPA#4 34.9 -5.88 1.75 1.44 9.35022 575 1.59 0.5 0.65 3.19 0.820060973 15.1 2.05 1.188108 5.27868 32.8 0.85 576 7/22/02 EPA G-I/11-13 EPA#5 4.57 2.58 0.7 1.2 0.96 2.05 1.188107739 13.05 3.09 1.188486 7.2633 5.38098 29.3 2.63 577 7/22/02 EPA G-I.5/2-4 EPA#1 3.55 2.86 0.74 0.23 2.58 0.998098 0.93 3.09 1.188486432 12.37 7.01778 4.52166 578 7/22/02 EPA G-I.5/2-4 EPA#2 30.4 3.43 2.21 2.01 0.61 0.57 0.79 2.58 0.998098192 11.93 3.05 1.058017 2.29152 4.46028 29.7 2.18 0.63 1.88 3.05 1.058017013 579 7/22/02 EPA G-I.5/2-4 EPA#3 1.12 1.17 0.85 7.62 3.28 0.656049 1.98462 2.82348 G-I.5/2-4 EPA#4 31.2 0.97 1.38 2.4 0.4 0.88 3.28 0.656048779 13.94 5.38098 580 7/22/02 EPA 0.52 3.96 1.220041 10.10724 G-I.5/2-4 EPA#5 581 7/22/02 EPA 31.3 4.94 2.63 2.03 0.74 1.93 0.97 3.96 1.220040983 14.26 3.63 1.226132 4.78764 5,4219 E-G/10-12 582 7/22/02 EPA EPA#1 34.3 2.34 2.65 2.27 0.75 1.36 0.97 3.63 1.22613213 11.04 4.67 0.970052 -4.41936 3.9897 E-G/10-12 EPA#2 583 7/22/02 EPA 34.4 -2.16 1.95 2.63 0.59 2.04 0.77 4.67 0.970051545 12.75 4.08 1.064002 -1.28898 4.5012 E-G/10-12 584 7/22/02 EPA EPA#3 33.7 -0.632.2 1.96 0.64 2.12 0.85 4.08 1.06400188 13.26 4.28 1.130044 -1.023 4.68534 E-G/10-12 EPA#4 31.9 4.62396 585 7/22/02 EPA -0.5 2.29 1.59 0.67 2.69 0.91 4.28 1.130044247 4.52 1.078007 8.06124 12.79 E-G/10-12 586 7/22/02 EPA EPA#5 33.7 3.94 2.26 1.57 0.65 2.95 0.86 4.52 1.078007421 13.68 0.52 1.224132 -3.04854 4.78764 587 7/23/02 background bkg072302 7.5 -1.492.34 0.16 0.72 0.36 0.99 0.52 1.224132346 14.02 7.36 1.210372 4.76718 5.36052 2.33 2.62 5.03 2.33 7.36 1.210371844 10.79 1.1 0.864002 -0.57288 3 66234 588 7/23/02 soil standard soilstd072302 36.9 0.75 0.95 S1311 C-E/ 1-10 589 7/23/02 EPA Sand 33.8 -0.281.79 1 0.52 0.1 0.69 1.1 0.864002315 11.95 1.08 0.930054 2.046 3.90786 S1311 C-E/ 1-10 590 7/23/02 EPA Sand R 32.9 1.91 0.1 0.55 0.98 0.75 1.08 0.930053762 13.09 4.36 1.186002 -0.59334 4.97178 1 5.54466 591 7/23/02 EPA G-I.5/4-6 EPA#1 33.2 -0.292.43 1.85 0.71 2.51 0.95 4.36 1.186001686 12.33 4.07 1.064002 4.58304 4.07 1.06400188 592 7/23/02 EPA G-I.5/4-6 EPA#2 32.7 2.71 2.24 2.25 0.64 1.82 0.85 14.03 5.71 1.322006 1.78002 5.6265 593 7/23/02 EPA G-I.5/4-6 EPA#3 32.6 2.75 3.11 0.79 2.6 1.06 5.71 1.322006051 13.82 4.49 1.172007 5.0127 5.0127 0.87 594 7/23/02 EPA G-I.5/4-6 EPA#4 31.9 2.45 2.45 1.84 0.7 2.65 0.94 4.49 1.172006826 11.38 4.51 1.014002 0.4092 4.33752 32.2 2.12 2.51 0.61 2 0.81 4.51 1.014001972 9.33 2.32 0.764003 -0.1023 3.25314 595 7/23/02 EPA G-1.5/4-6 EPA#5 0.2 35.5 0.63 2.32 0.764002618 5.48 1.002098 1.2276 4.11246 596 7/23/02 EPA G-1.5/6-8 EPA#1 -0.051.59 1.69 0.46 0.61 11.01 597 7/23/02 EPA G-1.5/6-8 EPA#2 35.6 0.6 2.01 1.57 0.59 3.91 0.81 5.48 1.0020978 10.3 3.11 0.9 1.14576 3.72372 598 7/23/02 EPA G-1.5/6-8 EPA#3 35.7 0.56 1.82 17 0.54 1 41 0.72 3 11 0.9 13.91 1.47 1.078007 7 54974 4 78764 34.9 0.45012 599 0.86 1.47 1.078007421 1.172007 4.88994 7/23/02 EPA G-I.5/6-8 EPA#4 3.69 2.34 0.61 0.65 0.86 13.78 2.73 37 600 2.39 1.68 2.73 1.172006826 3.39 1.636001 2.4552 6.81318 7/23/02 EPA G-1.5/6-8 EPA#5 0.22 1.05 0.7 0.94 16.14 601 7/23/02 overburden S1323 I-6 OB#1 33.4 1.2 3.33 1.85 0.98 1.54 1.31 3.39 1.636001222 22 36 2.44 1.78404 -4.43982 7.32468 602 7/23/02 overburden S1324 I-6 OB#2 32.1 -2.17 3.58 1.15 1.08 1.29 1.42 2.44 1.784040358 17.23 2.52 1.416051 2.3529 5.85156 3.92 1.220656 0.77748 4.95132 603 7/23/02 overburden S1325 I-6 OB#3 29.6 1.15 2.86 0.62 0.84 1.9 1.14 2.52 1.416050847 14.2 -2.27106 604 7/23/02 overburden S1326 I-6 OB QC 34 0.38 2.42 -0.58 0.7 4.5 3.92 1.220655562 15.31 0.96 1.3 5.17638 1 605 7/24/02 background bkg072402 7.5 -1.11 2.53 0.26 0.78 0.7 1.04 0.96 1.3 12.15 7.87 1.176138 7.54974 5.17638 606 7/24/02 soil standard soilstd072402 36.9 2.53 4.45 0.72 3.42 0.93 7.87 1.176137747 26.55 15.13 2.772183 13.74912 12.84888 3.69 7/24/02 exclusion zone S1327 B-2.25 0.43 1.210165 -12 1737 4 56258 607 23.6 6.72 6.28 12.32 1.75 2.81 2.15 15.13 2.772183255 14.31 608 7/25/02 background bkg072502 7.5 2.23 0.72 0.71 -0.290.98 0.43 1.210165278 14.19 8.66 1.338432 -0 4092 5.7288 -5.95 609 7/25/02 soil standard soilstd072502 36.9 -0.2 2.8 5.21 0.83 3.45 1.05 8.66 1.338431918 16.67 1.05 1.298499 -9.53436 4 76718 1.16211 12.60336 5.19684 610 7/26/02 background bkg072602 12.94 7.5 -4.66 2.33 -0.51 0.75 1.56 1.06 1.05 1.298499134 7/26/02 soil standard 1.65 0.922009 -8.75688 611 soilstd072602 36.9 6.16 2.54 3.87 0.71 3.74 0.92 7.61 1.16211015 11.52 3.60096

N	utranl Gamma	Spec Report-	341 East	Ohio S	treet Sit	e										
	Complete File of Nu	utrani Samples														
Sample	Sample Sample	Description	Weight	U-238	U-238	Th-232	Th-232	Ra-226	Ra-226	Total Radium	Total Radium					
ID	Date Group			Activity	Uncertainty	Activity	Uncertainty	Activity	Uncertainty	Activity	Uncertainty					
612	7/26/02 EPA Sand	S1328 B-C/6-12 A	29.9	-4.28	1.76	6.0	0.55	0.85	0.74	1.65	0.922008677	12.24	1.25	0.972008	-2.23014	3.9897
613	7/26/02 EPA Sand	S1329 B-C/6-12 B	32.9	-1.09	1.95	0.94	0.58	0.31	0.78	1.25	0.97200823	12.72	1.32	1.042017	0.94116	4.1943
614	7/26/02 EPA Sand	S1330 B-C/1-6 C	27.8	0.46	2.05	0.65	0.63	0.67	0.83	1 32	1.042017274	14.59	-1 33	1.090413	2.94624	4.56258
615	7/29/02 background	•	7.5	1.44	2.23		0.63				1.090412766	12.44		1.118258		4.93086
616	7/29/02 soil standar		36.9	5.02	2.41		0.69				1.118257573	10.1	2		5.3196	3.62142
617	7/29/02 lift soil	#1 S1332 B-C/1-10	28.9	2.6	1.77		0.5				0.828009662	18.81	-	1.445164		5.9334
618	7/29/02 lift soil	#2 S1333 B-C/1-10	28.6	1.46	2.9		0.82			•	1.445164351	10.94		0.920054		
619	7/29/02 lift soil	#3 S1334 B-C/1-10	29.1	-0.82	1.91		0.56				0.920054346	17.53	3.29			
620	7/29/02 lift soil	#4 S1335 B-C/1-10	28.9	-2.46	2.79		0.82				1.469965986	14.91	1.69			5.68788
621	7/29/02 lift soil 7/29/02 lift soil	#5 S1336 B-C/1-10 #6	29.8 27.8	4.14 9.24	2.78 3.17		0.78 0.83		1.02		1.284056074 1.434503398	19.09 14.01	1.35	1.434503		6.48582 4.37844
623	7/29/02 lift soil	\$1337 B-C/10-16 #1	30.6	-0.84	2.14		0.61				1.038123307	14.37	2.79		-5.6265	4.9104
624	7/29/02 lift soil	S1338 B-C/10-16 #2	29.8	-2.75	2.1-		0.73		0.98		1.222006547	12.73		1.052093		
625	7/29/02 lift soil	S1339 B-C/10-16 #3	33	3.15	2.16		0.62				1.052093152	15.43		1.278006		
626	7/29/02 lift soil	S1340 B-C/10-16 #4	31.8	-4.42	2.47		0.77				1.27800626	13.98		1.130044		\
627	7/29/02 lift soil	S1341 B-C/10-16 #5	32.9	-2	2.27	7 0.68	0.67	0.01	0.91	0.69	1.130044247	14.03	3.41	1.292749	5.6265	5.36052
		S1342 B-C/10-16														
628	7/29/02 lift soil	#6	30.5	2.75	2.62		0.74				1.292749009 1.426359001	18.46 11.77		1.426359 1.046375		5.95386 4.68534
629 630	7/30/02 background 7/30/02 soil standar		7,5 36.9	4.33 1.83	2.9° 2.29		0.83 0.65				1.046374694	16.97	7.4			6.40398
030	7730702 3011 31411041	d 30//3/002	30.3	1.03]
631	7/30/02 exclusion zo		20.8	3.95	3.10		0.9				1.572927207	13.94	0.46			5.17638
632	7/31/02 background		7.5	1.19	2.50		0.75				1.298499134	11.46	8.39			4.68534
633	7/31/02 soil standar		36.9	3 11	2.29		0.65				1.038556691	39.36		4.615886		22.9152
634	7/31/02 exclusion ze		37.3		11.2		•				4.615885614	17.53		1.410142		
635	7/31/02 exclusion ze	one S1345 H-9	38.5	-4.39	2.70	6 0.91	0.83				1.410141837	12.36				1
636	7/31/02 Pre EPA	S1346 H-18.5 #1	30.8		2.18		0.61					23.06		2.018167		1
637	7/31/02 Pre EPA	S1347 H-18.5 #2	31.8		4.23		1.19				2.018167486	13.73	-0.28			4.6035
638 639	8/1/02 background 8/1/02 soil standar	•	7.5	-3.01	2.2		0.71 0.78		0.92 0.99		1.16211015 1.260357092	13.5 13.98	7.85 1.22	1.260357 1.202082		5.56512 5.115
640	8/1/02 Soll standar	S1348 B-C/12-16	36.9	3.54	2.73		0.75	-			1.202081528	10.68	0.89			3 41682
1 040			30.2	4.14	2.	, (0.41							_			Į
641	8/1/02 EPA Sand	S1349 B-C/16-21	27.8		1.6		0.47				0.810246876	10.04 10.68		0.788162 0.880057		1
642	8/1/02 EPA Sand	S1350 E-G/3-7	30.6	1.43	1.6	2 -0.22	0.46	1.84	0.64	1.62	0.78816242	10.68	1.32	0.000057	1.49338	3.50004

Nutranl Gamma Spec Report- 341 East Ohio Street Site Complete File of Nutrani Samples U-238 Th-232 Weight Th-232 Ra-226 Ra-226 Total Radium Sample Sample Sample Description U-238 Total Radium Activity Activity Uncertainty Activity Uncertainty Activity ID Date Group Uncertainty Uncertainty 643 8/1/02 EPA Sand S1351 E-G/7-11 33 7 0.73 1.74 0.4 0.52 1.12 0.71 1.52 0.880056816 13.47 2.03 1.174138 7.44744 5 115 S1352 H-19 8/1/02 EPA EPA#1 24.5 3.64 2.5 0.83 0.69 1.2 0.95 2.03 1.174137982 10.52 3.17 0.934077 -1.06392 644 4 03062 S1353 H-19 EPA#2 31.2 -0 52 2.45 0.72 8/1/02 EPA 1.97 0.57 0.74 3.17 0.934077085 3.74 1.010198 5.66742 4.23522 645 11.3 S1354 H-19 646 8/1/02 EPA EPA#3 30.6 2.77 2.07 0.98 0.59 2.76 0.82 3.74 1.010198 11.04 3.36 0.992018 -3.9897 3.9897 S1355 H-19 EPA#4 33.3 -1.95 1.95 1.96 0.79 2.55 0.876185 -3.13038 3.70326 647 8/1/02 EPA 0.6 1.4 3.36 0.992018145 10.8 S1356 H-19 648 8/1/02 EPA EPA#5 31.7 -1.53 1.81 1.83 0.54 0.72 0.69 2.55 0.876184912 11.43 2.57 0.978008 8.53182 4.23522 S1357 H-I/8-9 37.7 4.17 2.07 0.59 0.78 2.57 0.97800818 9.52 649 8/1/02 Pre EPA 1.14 1.43 1.78 0.77801 -0.85932 3 2736 650 8/1/02 Pre EPA S1358 H-I/9-10 35.5 -0.421.6 1.21 0.47 0.57 0.62 1.78 0.778010283 19.28 -0.68 1.448068 -1.04346 5.99478 651 8/2/02 background bkq080202 7.5 -0.51 2.93 0.63 0.88 -1.31 1.15 -0.68 1.448067678 15.05 7.55 1.382245 2.4552 6.0357 652 8/2/02 soil standard soilstd080202 36.9 1.2 2.95 4.47 0.85 3.08 1.09 7.55 1.382244551 11.72 4.41 1.066068 7.2633 4.54212 8/2/02 Pre EPA S1359 A 5/2.5 3.55 2.22 1.35 0.63 3.06 0.86 4.41 1.06606754 15.17 0.77 1.248519 12.05094 5.38098 653 21.7 654 8/2/02 Pre EPA S1360 E.5/2 36.3 5.89 2.63 -0.79 0.72 1.56 1.02 0.77 1.248519123 18.15 5.86 1.85235 -2.02554 8.02032 S1361 A/2.75-3.5 0.932309 -0.42966 655 8/2/02 exclusion zone WALL 29.3 -0 99 3.92 4.58 1.14 1.28 1.46 5.86 1.852349859 11.19 0.87 3.66234 bka080502 -0.21 1.79 -0.4 0.54 1.27 0.76 0.87 0.932308962 10.4 8.05 0.948103 6.0357 4.15338 656 8/5/02 background 7.5 657 8/5/02 background soilstd080502 36.9 2.95 2.03 4 64 0.58 3 41 0.75 8.05 0.94810337 13 74 4 85 1.156028 1.08438 4 82856 658 8/5/02 Pre EPA S1362 A/10.5 26 0.53 2.36 2.1 0.7 2.75 0.92 4.85 1.156027681 11.77 8.17 1.130708 -7.48836 4.8081 -3.662.35 0.88 1.398463 0.65472 5.7288 659 8/5/02 Pre EPA S1363 A/12.25 31.3 6.07 0.71 2.1 8.17 1.130707743 15.65 0.31 660 8/6/02 background bka080602 7.5 0.32 2.8 -0.48 0.81 0.79 1.14 0.31 1.398463442 12.46 9.08 1.160388 3.35544 5.0127 8/6/02 soil standard soilstd080602 36.9 1.64 2.45 4.73 0.72 4.35 0.91 9.08 1.160387866 14.04 0.71 0.79794 4.74672 661 1.1 S1364 E-F/1-662 8/6/02 Pre EPA 2.25 34.3 0.39 2.32 0.8 0.66 -0.09 0.88 0.71 1.1 17.43 7.07 1.564864 -3.51912 6.8541 S1365 A-12.25 663 8/6/02 Pre EPA 34 -1.723.35 6.06 0.98 1.01 1.22 7.07 1.564864211 15.33 -0.19 1.146211 -7.91802 4.35798 8/7/02 background 7.5 -3.87 2.13 -0.96 0.67 0.77 0.93 -0.19 1.14621115 9.24 7.1 0.796492 2.31198 3.51912 664 bkg080702 665 8/7/02 soil standard soilstd080702 36.9 1.13 1.72 4.86 0.5 2.24 0.62 7.1 0.79649231 10 2.61 0.85 -2.33244 3.53958 A-A.5/2.5-3.5 666 8/7/02 EPA EPA #1 27.2 -1.14 1.73 1.12 0.51 1.49 0.68 2.61 0.85 14.8 10.19 1.42436 0.08184 6.30168 A-A.5/2.5-3.5 667 8/7/02 EPA EPA #2 26.6 0.04 3.08 7.74 88.0 2.45 1.12 10.19 1.424359505 12.64 3.63 1.070047 4.37844 4.54212 A-A.5/2.5-3.5 668 8/7/02 EPA EPA #3 25.4 2.14 2.22 1.61 0.65 2.02 0.85 3.63 1.070046728 14.18 3.2 1.186002 -4.62396 4.86948 A-A.5/2.5-3.5 3.79 1.126144 -2.9667 4 72626 -2.26 2.38 1.22 0.71 1.98 0.95 3.2 1.186001686 13.54 669 8/7/02 EPA EPA#4 25.8 A-A.5/2.5-3.5 670 8/7/02 EPA EPA #5 25.4 -1.45 2.31 2.17 0.69 1.62 0.89 3.79 1.126143863 10.68 0.9 0.836002 -7.01778 3 31452 671 8/7/02 EPA Sand 30.8 -3.43 1.62 0.25 0.5 0.65 0.67 0.9 0.836002392 11.79 0.96 0.916079 1.37082 3.8874 S1386 A-B/1-4 0.98813 5.50374 4.25568 0.27 0.54 0.69 0.74 0.96 0.916078599 12.44 0.87 672 8/7/02 EPA Sand S1387 A-B/4-8 31.3 0.67 1.9 -1.00254 1.152085 4.82856 673 8/7/02 EPA Sand S1388 A-B/8-12 36.1 2.69 2.08 0.23 0.58 0.64 8.0 0.87 0.988129546 14.18 1.57 0.18 1.086002 0.6138 4.54212 674 8/7/02 EPA Sand S1389 A-B/12-15 38.5 -0.492.36 0.88 0.68 0.69 0.93 1.57 1.152085066 13.75 1.38 1.406023 -5.25822 675 8/7/02 EPA E-F/1-2.5 EPA #1 36 0.3 2.22 -0.04 0.65 0.22 0.87 0.18 1.086001842 18.14 5.8311 0.70214 6.62904 2.9667 676 8/7/02 EPA E-F/1-2.5 EPA #2 34.9 -2.572.85 0.93 0.85 0.45 1.12 1.38 1.406022759 8.48 1.22 1.22 0.702139587 17.3 0.03 1.308014 7.38606 5.68788 677 8/7/02 EPA E-F/1-2.5 EPA #3 34.2 3.24 1.45 -0.35 0.41 1.57 0.57 0.9207 4.8081 8/7/02 EPA E-F/1-2.5 EPA #4 1.05 0.03 1.308013761 12.52 2.25 1.240363 678 34.5 3.61 2.78 0.31 0.78 -0.28

N	utranl Gamma S	pec Report-	341 East	Ohio S	treet Sit	е								i		
	Complete File of Nutr	ani Samnies								· · · · · · · · · · · · · · · · · · ·						
Sample	Sample Sample	Description	Weight	U-238	U-238	Th-232	Th-232	Ra-226	Ra-226	Total Radium	Total Radium					
ID	Date Group		Weight	Activity	Uncertainty		Uncertainty	لـــــــــــــــــــــــــــــــــــــ	Uncertainty	Activity	Uncertainty					
10	Date Group			Activity	Uncertainty	Activity	Uncertainty	Activity	Oncertainty	Activity	Uncertainty		i		I	-
679	8/7/02 EPA	E-F/1-2.5 EPA #5	34.7	0.45	2.35	0.18	0.72	2.07	1.01	2.25	1.24036285	15.05	0.33	1.15	-2.78256	4.9104
680	8/8/02 background	bkq080802	7.5	-1.36	2.4	0.93	0.69		0.92			13.02		1.182286	0.47058	5.09454
681	8/8/02 soil standard	soilstd080802	36.9	0.23	2.49	5.05	0.73		0.93		1.182285921	9.15	2.99		5.70834	3.25314
		E-F/13.5-15														1
682	8/8/02 EPA	EPA#1	34.7	2.79	1.59	0.69	0.45	2.3	0.61	2.99	0.758023746	8.56	2.08	0.692026	-3.4782	2.92578
	0/0/00 504	E-F/13.5-15	00.5	4.7	4.40	4.54	0.40	0.53	0.55		0.00000044	40.00	2.40			
683	8/8/02 EPA	EPA#2 E-F/13.5-15	32.5	-1.7	1.43	1.51	0.42	0.57	0.55	2.08	0.692026011	10.23	2.42	0.872009	1.65726	3.70326
684	8/8/02 EPA	EPA#3	32.4	0.81	1.81	1.42	0.52	1	0.7	2 /2	0.872009174	11.72	2 08	0.978008	0.73656	4.23522
004	0/0/02 11 /	E-F/13.5-15	02.4	0.01	1.01	1.72	0.02	•	0.7	2.42	0.072003174	11.72	2.30	0.370000	. 0.73030	4.20022
685	8/8/02 EPA	EPA#4	33.2	0.36	2.07	1.77	0.59	1.21	0.78	2.98	0.97800818	11.92	3.36	1.052093	1.45266	4.41936
İ		E-F/13.5-15														
686	8/8/02 EPA	EPA#5	32.5	0.71	2.16	1.2	0.62	2.16	0.85	3.36	1.052093152	11.44	0.48	0.952103	9.39114	4.17384
687	8/8/02 EPA	H-I/8-10 EPA#1	34.6	4.59	2.04	0.07	0.56	0.41	0.77	0.48	0.952102936	11.69	0.67	0.930054	4.74672	3.90786
688	8/8/02 EPA	H-I/8-10 EPA#2	33.7	2.32	1.91	0.17	0.55	0.5	0.75	0.67	0.930053762	10.46	1.39	0.860233	5.66742	3.53958
689	8/8/02 EPA	H-I/8-10 EPA#3	34.2	2.77	1.73	-0.21	0.5	1.6	0.7	1.39	0 860232527	9.72	0.96	0.75	1.7391	3.1713
690	8/8/02 EPA	H-I/8-10 EPA#4	34.1	0.85	1.55	0.19	0.45	0.77	0.6	0.96	0.75	11.23	0.82	0.880057	0.69564	3.70326
691	8/8/02 EPA	H-I/8-10 EPA#5	32.1	0.34	1.81	0.03	0.52	0.79	0.71	0.82	0.880056816	15.53	1.29	1.238103	-1.90278	5.0127
692		S1390 A-B/15-21	33.1	-0.93	2.45	-0.08	0.73		1		1.238103388	14.87		1.330038	3.3759	5.58558
693	8/8/02 EPA Sand	S1391 E-G/1-3	33.5	1.65	2.73	0.67	0.79		1.07		1.330037593	15.16		1.188108	1.57542	4.86948
694	8/8/02 EPA Sand	S1392 G-I/1-3	31.7	0.77	2.38	-0.48	0.7		0.96	1.05	1.188107739	15.12	1.17	1.180042	-3.15084	4.95132
695	8/8/02 EPA Sand	S1393 G-I/3-5	32.7	-1.54	2.42	0.47	0.7	0.7	0.95		1.180042372	15.19	1	1.201041	-0.94116	4.84902
696	8/8/02 EPA Sand	S1394 G-I/5-7	33.5	-0.46	2.37	-0.64	0.68	1.64	0.99	1	1.201041215	17.81	2.27	1.456022	-2.046	6.0357
697	8/8/02 EPA Sand	S1395 G-I/7-9	32.7	-1	2.95	1.55	0.88	0.72	1.16	2.27	1.456021978	17.35	1.14	1.394023	1.90278	6.0357
698	8/8/02 EPA Sand	S1396 G-I/9-11	33.9	0.93	2.95	1.55	0.83	-0.41	1.12	1.14	1.394022955	11.88	0.87	0.894036	-7.34514	3.53958
699	8/8/02 EPA Sand	S1397 G-l/11-13	34.4	-3.59	1.73	0.04	0.53	0.83	0.72	0.87	0.894035793	15.07	1.55	1.164002	-12.8489	4.64442
700		S1398 G-I/13-15	35.1	-6.28	2.27	1.05	0.7		0.93		1.164001718	18.95	4.65			6.73134
701	8/8/02 EPA Sand	S1399 G-I5 clay	39.7	7.12	3.29	1.19	0.92		1.21		1.520032894	16.31		1.464787	-4.8081	5 60604
702		bkq080902	7.5	-2.35	2.74	0.84	0.84		1.2		1.464786674	14.27		1.294681	1.9437	5.60604
702	•	soilstd080902	36.9	0.95	2.74	5.52	0.81	3.2	1.01		1.294681428	12.64		1.026499	-0.49104	4.07154
			7.5		1.99	-0.34	0.59	-	0.84		1.026498904	16.8		1.510298	2.39382	6.56766
704	ū	bkg081202		-0.24												
705		soilstd081202	36.9	1.17	3.21	4.51	0.93		1.19		1.510297984	8.29		0.672012	1.67772	2.80302
706	•	bkg081302	7.5	0.82	1.37	0.27	0.4		0.54		0.672011905	12.15		1.182286	1.18668	5.0127
707	8/13/02 soil standard	soilstd081302	36.9	0.58	2.45	4.92	0.73	3.76	0.93	8.68	1.182285921	46.5	178.26	6.43199	-53.8507	30.30126
708	8/13/02 exclusion zone	S1400 H/20.25	29.4	-26.32	14.81	147.94	4.19	30.32	4 88	178.26	6.431990361	245.98	987.71	36.72661	-667.63	170.575
709	8/13/02 exclusion zone	S1401 G 5-20 5	28.9	-326.31	83.37	769.74	23.66	217.97	28.09	987 71	36.72660752	10.21	-0.02	0.810247	-0.85932	3.21222
710		bkg081402	7.5	-0.42	1.57	-0.59	0.47		0.66		0.810246876	13.43		1.202539	1.39128	5.23776
711	8/14/02 soil standard	soilstd081402		0.68	2.56	4.89	0.75		0.00		1.202538981	8.6	0.39		4.27614	2.7621
711		G-I/ 15-17.5	36.9 35.2	2.09	1.35	-0.3	0.75		0.94		0.644049688	13.21		0.992018	-2.2506	4.25568
1					2.08	0.36										
713		G-I/ 17.5-20	34.7	-1.1			0.6		0.79		0.992018145	11.42		0.914002		3.62142
714		bkg081502	7.5	-2.48	1.77	0.55	0.55		0.73		0.914002188	11.14		0.996393	3.10992	4.35798
715		soilstd081502	36.9	1.52	2.13	5.39	0.62		0.78		0.996393497	17.25	3.26		1.55496	5.6265
716		S1404 F-14	35.7	0.76	2.75		0.81	3.52	1.12		1.382208378	10.75		0.968349	-4.7058	3.7851
717	-	bkg081602	7.5	-2.3	1.85		0.56		0.79		0.968349111	13.12	8.25		7.54974	5.46282
718	8/16/02 soil standard	soilstd081602	36.9	3.69	2.67	5.2	0.76	3.05	0.96	8.25	1.224418229	19.21	33.74	2.144621	-18.9869	9.59574
740	0/4.6/00 avaluation 7000	. S140E 1.0 E	04.4	0.00	4.00	05.04	1 07	0.40	1.05	20.74	0.144601170	18.44	1.50	1 45	0.27000	E 74000
719		S1405 J-9.5 S1406 J-7	24.1	-9.28	4.69	25.31	1.37	8.43	1.65		2.144621179	18.44 12.94	1.56	1.45 1.086002	-9.37068 -2.046	5.74926 4.52166
720			35.7	-4.58	2.81	1.22	0.87		1.16							
721	8/16/02 overburden	S1407 I-2	34.8	-1	2.21	1.28	0.65	1.53	0.87	2.81	1.086001842	21.58	2.01	1.74201	-1.5345	7.161

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		File of Nutra	, '														
Sample	Sample	Sample	Description	Weight	U-238	U-238	Th-232	Th-232	Ra-226	Ra-226	Total Radium	Total Redium					
ID	Date	Group			Activity	Uncertainty			Activity	Uncertainty	Activity	Uncertainty					
722		overburden	S1408 J-4	36	-0.75	3.5		1.05	1.44	1.39		1.742010333	16.23		1.236002		4.88994
723			S1409 F-20	34.3	-3.36	2.39		0.74	0.62	0.99		1.236001618	15.83	2.41	1.460137		5.81064
724			S1410 E.5-20.5	32.8	0.63	2.84		0.86	1.66	1.18		1.46013698	16.56	2.38			5.25822
725	8/16/02	lift soil	S1411 G.5-20.5	34.8	-1.24	2.57	-1.31	0.77	3.69	1.11	2.38	1.350925609	31.92	48.7	4.302894	29.68746	21.19656
726	8/16/02	exclusion zone	S1412 I.5-10.25	31.4	14.51	10.36	44.17	2.82	4.53	3.25	48.7	4.302894375	3679.89	4206.71	562.3377	-9871.97	2487.118
727	8/16/02	exclusion zone	S1413 I.75-10.5	39.3	-4825.01	1215.6	3752.32	369.48	454.39	423.92	4206.71	562.3376537	24.28	. 33	2.911099	14.19924	13.1967
728	8/16/02	exclusion zone	S1414 J-11	26.6	6.94	6.45	20.51	1.81	12.49	2.28	33	2.911099449	13.37	-0.19	1.170684	5.19684	4.88994
729		background	bkg081902	7.5	2.54	2.39		0.67	0.5	0.96		1.170683561	13.73	7.82			
730		soil standard	soilstd081902	36.9	-3.96	2.74		0.81	0.65	0.98		1.271416533	15.05	1.29	1.251	0.1023	5.05362
731		background	bkg082002	7.5	0.05	2.47		0.71	1.52	1.03			14.37		1.358713		I .
732		soil standard	soilstd082002	36.9	6.11	2.99		0.85	3.08	1.06		1.358712626	12.78		1.012126		
1,02	. 0/20/02	3011 Ştaridard	301131,0002002	50.5	0.11	2.00	, 4.00	. 0.00	3.00	1.00	7.51	1.0307,12020	12.70		1.012120	2.2300	4.557 50
733	8/20/02	Pre EPA	S1415 I.5-K/9-10 S1416 I.5-K/10.5-	33.6	1.1	2.13	1.27	0.62	-0.16	8.0	1.11	1.012126474	11.54	1.88	0.984073	-0.26598	4.1943
734	8/20/02	Pre EPA	.12	30.4	-0.13	2.05	1.67	0.6	0.21	0.78	1.88	0.984073168	175.06	720.71	26.75603	-360.423	127.7522
735	8/20/02	exclusion zone	S1417 J.5/19	33.1	-176.16	62.44	630.26	17.58	90.45	20.17	720.71	26.75603296	365.46	2150.05	55.2721	-1135.8	265.714
736	8/20/02	exclusion zone	\$1418 1.75/19.5	33.7	-555.13	129.87	1944 61	36.45	205.44	41.55	2150.05	55.27209965	243.93	2084.9	37.90082	-1256.51	181.6439
737	8/20/02	exclusion zone	S1419 J.75/18.5	29.6	-614.13	88.78	1889.85	25.03	195.05	28.46	2084.9	37.90082453	4510.86	10116.55	661.6582	-13574.6	2858.733
738	8/20/02	exclusion zone	S1420 J.5/19.5	30.1	-6634.68	1397.23	6867.1	415.56	3249.45	514.88	10116.55	661.6581655	10.83	-0.12	0.866083	-2.31198	3.49866
739	8/21/02	background	bkg082102	7.5	-1.13	1.71	0.3	0.51	-0.42	0.7	-0.12	0.866083137	15.47	7.1	1.372771	10.47552	6.2403
740	8/21/02	soil standard	soilstd082102 S1421 I-J.5/9-12	36.9	5.12	3.05	5.13	0.86	1.97	1.07	7.1	1.37277092	14.44	1.96	1.128007	-3.94878	4.72626
741	8/21/02	EPA	EPA#1		-1.93	2.31	1.42	0.68	0.54	0.9	1.96	1.128007092	8.93	3.88	0.782368	8.92056	3.31452
742	8/21/02	EPA	S1422 I-J.5/9-12 EPA#2	34	4.36	1.62	-0.12	0.45	4	0.64	3.88	0.7823682	12.18	1.93	1.014002	-1.92324	4.13292
743	8/21/02	EPA	S1423 I-J.5/9-12 EPA#3	33.3	-0.94	2.02	0.29	0.61	1.64	0.81	1.93	1.014001972	12.82	3.14	1.116065	-7.54974	4.3989
744	8/21/02	EPA	S1424 I-J.5/9-12 EPA#4	34	-3.69	2.15	0.95	0.66	2.19	0.9	3.14	1.116064514	10.56	2.33	0.880057	0.45012	3.64188
745	8/21/02	EPA	S1425 I-J.5/9-12 EPA#5	33.5	0.22	1.78	0.55	0.52	1.78	0.71	2.33	0.880056816	7.58	0.41	0.564004	0.67518	2.43474
746	8/21/02	EPA Sand	S1426 E-G/11-13	41.5	0.33	1.19	0.19	0.34	0.22	0.45	0.41	0.564003546	9.47	0.87	0.786003	4.46028	3.3759
747	8/21/02	EPA Sand	S1427 E-G/13-15	35.8	2.18	1.65	0.63	0.47	0.24	0.63	0.87	0.786002545	13.89	2.28	1.128938	-4.46028	4.3989
748	8/21/02	EPA Sand	S1428 E-G/15-17	37.3	-2.18	2.15	-0.89	0.64	3.17	0.93	2.28	1.128937554	12.32	1.21	0.964002	-8.2863	3.86694
749	8/21/02	EPA Sand	S1429 E-G/17-19	34.2	-4.05	1.89	1.19	0.58	0.02	0.77	1.21	0.964002075	13.67	2.02	1.116065	-4.62396	4 54212
750	8/21/02	EPA Sand	S1430 E-G/19-21	34.4	-2.26	2.22	0.74	0.66	1.28	0.9	2.02	1.116064514	12.92	-0.02	1.034698	-2.43474	4.05108
751		background	bkg082202	7.5	-1.19	1.98		0.59	0.85	0.85		1.034698024	11.22		0.990202		4.27614
752		soil standard	soilstd082202	36.9	-0.06	2 09		0.61	3 69	0.78			17.25		1.546157		
753		background	bkg082302	7.5	-1.99	2.86		0.91	0.72	1.25		1.546156525	14.61	8.35			5.9334
754		soil standard	soilstd082302	36.9	-1.08	2.9		0.85	1.93	1.25		1.358712626	10.18	0.19			
755		background	bkg082602	7.5	-1.92	1.64		0.49	-1.05	0.65		0.814002457	13.87		1.246315		
	0/20/02	Davingiound	J.Igooboob	1.3	-1.32	1.04	1.24	0.49	-1.05	0.05	0.19	0.014002437	13.07	0.00	1.2-0010	0.4702	0.00030

Nutranl Gamma Spec Report- 341 East Ohio Street Site Complete File of Nutrani Samples Sample Sample Sample Description Weight U-238 U-238 Th-232 Th-232 Ra-226 Ra-226 Total Radium | Total Radium ID Date Group Activity Uncertainty Activity Uncertainty Activity Uncertainty Activity Uncertainty 756 8/26/02 soil standard soilstd082602 36.9 -1.7 2.63 5.12 0.77 2.96 0.98 8.08 1.246314567 410.83 1774.85 64.64936 -1669.88 309.8462 757 8/26/02 exclusion zone S1431 J.75/10.9 33.1 -816.17 151.44 1683.82 43.04 91.03 48.24 1774.85 64.64935576 11.47 3.32 1.020049 6.138 4.37844 S1432 I.5-758 8/26/02 Pre EPA J.5/10.5-11.5 33.1 3 2.14 1.7 0.62 1.62 0.81 3.32 1.020049018 13.18 1.23 1.096221 -1.57542 4.43982 S1433 I.5-J.5/9.5--0.77 759 8/26/02 Pre EPA 10.5 35 2.17 -0.490.64 1.72 0.89 1.23 1.096220781 13.12 1.83 1.010198 -2.70072 4.05108 -1.32 760 8/26/02 EPA Sand S1434 I-J.5/1-4 35.1 1.98 0.05 0.59 1.78 0.82 1.83 1.010198 10.94 0.85 0.836002 -0.77748 3.49866 761 8/26/02 EPA Sand S1435 I-J.5/4-7 35.8 -0.381.71 0.19 0.5 0.66 0.67 0.85 0.836002392 9.86 0.25 0.728011 -6.01524 3.04854 1.49 S1436 I-J.5/7-9.5 34.4 -2.940.5 -0.250.58 0.25 0.728010989 762 8/26/02 EPA Sand 0.44 8.87 0.46 0.636003 9.24792 2.84394 S1437 I.5-K/9.5-11 EPA#1 36.4 4.52 1.39 -0.5 0.38 0.96 0.51 0.46 0.636003145 12.51 763 8/26/02 EPA 2.04 1.05 -1.30944 4.31706 S1438 I.5-K/9.5-11 EPA#2 37.5 -0.640.6 0.63 0.84 2.04 4.54212 764 8/26/02 EPA 2.11 1.44 1.05 13.59 2.24 1.118302 -2.7621 S1439 I.5-K/9.5-765 8/26/02 EPA 11 EPA#3 37.7 -1.352.22 0.11 0.65 2.13 0.91 2.24 1.118302285 9.64 2.02 0.8 -2.57796 3.35544 S1440 I.5-K/9.5-766 8/26/02 EPA 11 EPA#4 36.4 -1.261.64 0.91 0.48 1.11 0.64 2.02 0.8 12.75 1.53 1.030049 3.84648 4.3989 S1441 I.5-K/9.5-767 8/26/02 EPA 11 EPA#5 37.2 1.88 2.15 0.16 0.61 1.37 0.83 1.53 1.030048543 14.91 -0.34 7.01778 5.40144 1.25 8/27/02 background bkq082702 3.43 768 7.5 2.64 0.11 0.75 -0.451 -0.341.25 13.96 7.11 1.296302 5.13546 5.70834 769 8/27/02 soil standard soilstd082702 36.9 2.51 2.79 4.8 0.8 2.31 1.02 7.11 1.296302434 12.33 1.05603 -0.34782 4.31706 0 85 770 8/28/02 background 7.5 -0.17 -0.22bkq082802 2.11 1.07 0.64 0.84 0.85 1.056030303 10.38 1.026158 2.8644 4.43982 8.21 771 8/28/02 soil standard soilstd082802 36.9 1.4 2.17 5.09 0.63 3.12 0.81 8.21 1.026157883 16.29 -0.24 1.168289 2.20968 4.88994 772 8/29/02 background bkq082902 7.5 1.08 2.39 -0.85 0.68 0.61 0.95 -0.24 1.168289348 16.69 7.02 1.43534 2.10738 6.4449 8/29/02 soil standard 773 soilstd082902 36.9 1.03 3.15 5.99 0.91 1.03 1.11 7.02 1.435339681 11.16 1.02 1.012571 0.04092 3.9897 774 8/30/02 background bkq083002 7.5 0.02 1.95 -0.4 0.58 1.42 1.02 1.012570985 14.08 8.36 1.372771 -4.11246 5.97432 0.83 775 8/30/02 soil standard soilstd083002 36.9 -2.01 2.92 6.37 0.86 1.99 1.07 8.36 1.37277092 14.38 1.48 1.194027 -7.28376 4.74672 S1442 J.5-L/1-4 776 8/30/02 EPA Sand 35.7 -3.562.32 0.57 0.71 0.91 0.96 1.48 1.1940268 15.92 1.99 1.298075 -2.31198 5.27868 8/30/02 EPA Sand 777 S1443 J.5-L/4-7 36.8 -1.13 2.58 1.64 0.79 0.35 1.03 1.99 1.298075499 19.02 2.01 1.53688 3.5805 6.138 S1444 J.5-L/7-778 8/30/02 EPA Sand 35.6 1.75 3 -0.840.88 2.85 1.26 2.01 1.536879956 15.07 0.99 1.108016 9.63666 4.82856 9.5 779 8/30/02 EPA Sand S1445 I-L/9.5-11 35.3 4.71 2.36 -0.440.66 1.43 0.89 0.99 1.108016245 13.56 1.06 1.076151 -0.38874 4.46028 780 8/30/02 EPA Sand S1446 C-E/10-12 38 -0.19 2.18 0.86 0.66 0.2 0.85 1.06 1.076150547 11.38 0.28 0.85 6.6495 3.70326 781 8/30/02 EPA Sand S1447 C-E/12-14 41.8 3.25 1.81 -0.01 0.51 0.29 0.68 0 28 12.47 1.84 1.072007 7.161 4.68534 0.85 782 0.63 20.07 0.5 1.508012 -5.97432 5.99478 8/30/02 EPA Sand S1448 C-E/14-16 40.6 3.5 2.29 0.64 1.21 0.86 1.84 1.072007463 783 8/30/02 EPA Sand S1449 C-E/16-18 36.7 -2.922.93 0.23 0.9 0.27 1,21 0.5 1.508011936 15.78 1.01 1.288099 2.39382 5.5242 784 8/30/02 EPA Sand S1450 C-E/18-20 36.3 1.17 2.7 0.36 0.76 0.65 1.04 1.01 1.288099375 9.94 3.11 0.926553 -4.8081 3.62142 785 8/30/02 EPA Sand S1451 C-E/20-21 33 -2.351.77 0.15 0.53 2.96 0.76 3.11 0.926552751 12.09 0.82 0.980051 0.96162 4.01016 4.48074 786 9/3/02 background bkq090302 7.5 0.47 1.96 0.13 0.58 0.69 0.79 0.82 0.980051019 11.68 8.65 1.05423 -2.47566 9/3/02 soil standard soilstd090302 0.71 1.086002 -0.26598 4.56258 787 36.9 -1.21 2.19 4.97 0.65 3.68 0.83 8.65 1.054229577 11.62 9/4/02 background 788 bkg090402 7.5 -0.13 2.23 1.4 0.65 -0.69 0.87 0.71 1.086001842 12.97 8.39 1.246315 1.88232 5.44236 789 9/4/02 soil standard soilstd090402 210.33 6.942622 -83.3745 33.57486 36.9 0.92 2.66 5.08 0.77 3.31 0.98 8.39 1.246314567 46.27 790 9/4/02 exclusion zone S1452 L.25-6 49.67 240.55 7.30302 -129.103 35.25258 26.3 -40.75 16.41 193.04 4.6 17.29 5.2 210.33 6.942621983

Nutranl Gamma Spec Report- 341 East Ohio Street Site Complete File of Nutrani Samples Sample Sample Sample Description Weight U-238 U-238 Th-232 Th-232 Ra-226 Ra-226 Total Radium | Total Radium ID Date Activity Uncertainty Activity Uncertainty Activity Uncertainty Activity Group Uncertainty -63.1 27.2 17.23 224.47 4.85 16.08 5.46 791 9/4/02 exclusion zone S1453 L.25-6.25 240.55 7.303019923 2275.67 7409.36 339.6033 -7274.57 1526.152 exclusion zone -3555.51 792 9/4/02 QC S1454 K-18.5 28.1 745.92 5421.13 216.24 1988.23 261.86 7409.36 339.6032939 35.83 242.06 5.250924 -26.3116 24.87936 exclusion zone S1455 G.5-H/20-793 9/4/02 QC 21 31.8 -12.8612.16 193.12 3.39 48.94 4.01 242.06 5.250923728 20.08 40.25 2.56632 -9.26838 12.13278 exclusion zone S1456 L.5/5.75-29.9 -4.5337.42 2.83 794 9/4/02 QC 5.93 1.68 1.94 40.25 2.566320323 11.51 -0.35 0.958019 3.2736 6.5 4.17384 795 9/5/02 background bkg090502 7.5 1.6 2.04 0.55 0.57 -0.9 0.77 -0.35 0.958018789 17.2 8.11 1.564864 -5.38098 6.71088 9/5/02 soil standard soilstd090502 36.9 -2.633.28 5.06 0.98 3.05 1.22 8.11 1.564864211 2.57 1.092016 4.23522 4.74672 796 13.11 S1457 L-L.75/5.75-6.5 EPA#1 24.4 2.07 2.32 1.41 0.66 797 9/5/02 EPA 1.16 0.87 2.57 1.092016483 13.7 3.74 1.142016 2.6598 4.9104 S1458 L-L.75/5.75-6.5 798 9/5/02 EPA EPA#2 27.8 1.3 2.4 1.99 0.69 1.75 0.91 3.74 1.142015762 10.74 4.34 0.958019 3.15084 4.03062 S1459 L-L.75/5.75-6.5 799 9/5/02 EPA EPA#3 28.1 1.54 1.97 1.75 0.57 2.59 0.77 4.34 0.958018789 10.88 4.42 0.95 -2.06646 3.96924 S1460 L-L.75/5.75-6.5 800 9/5/02 EPA FPA#4 27 -1.01 1.94 2.21 0.57 2.21 0.76 4.42 0.95 12.11 3.84 1.062121 1.47312 4.54212 S1461 L-L.75/5.75-6.5 801 9/5/02 EPA EPA#5 29.1 0.72 2.22 2.63 0.65 1.21 0.84 3.84 1.06212052 12.75 1.69 1.080046 -4.01016 4.41936 802 9/5/02 EPA Sand S1462 I-L/11-12 33.1 -1.96 2.16 0.72 0.64 0.97 0.87 1.69 1.080046295 13.97 0.6 1.092016 0.1023 4.54212 S1463 I-L/12-13 33.6 0.05 2.22 0.18 0.66 0.42 0.87 0.6 1.092016483 14.31 1.34618 5.44236 803. 9/5/02 EPA Sand 1.96 -0.65472 33.7 -0.320.63 1.33 1.45 2.004196 2.41428 8.75688 804 9/5/02 EPA Sand S1464 I-L/13-14 2.66 0.79 1.09 1.96 1.34617978 26.7 805 9/5/02 EPA Sand S1465 I-L/14-15 34.4 1.18 4.28 0.03 1.18 1.42 1.62 1.45 2.004195599 22.19 2.44 1.972004 -5.07408 7.79526 806 9/5/02 EPA Sand S1466 I-L/15-16 33.4 -2.483.81 0.01 1.18 2.43 1.58 2.44 1.972004057 16.99 2.61 1.444022 -7.50882 5.85156 S1467 I-L/16-0.96 807 9/5/02 EPA Sand 17.5 30.8 -3.672.86 0.86 1.65 1.16 2.61 1.44402216 17.79 2.1 1.472005 -3.19176 6.01524 1.434503 5.66742 808 9/5/02 EPA Sand S1468 L-N/1-3 32.8 -1.56 2.94 0.83 0.88 1.27 1.18 2.1 1.472005435 17.38 2.21 -7.4679 809 9/5/02 EPA Sand S1469 L-N/3-5 25.8 -3.65 2.77 -0.16 0.83 2.37 1.17 2.21 1.434503398 16.61 7.31 1.388416 -2.70072 5.9334 810 9/5/02 exclusion zone S1470 M-8.1 27.6 -1.32 2.9 5.14 0.86 2.17 1.09 7.31 1.388416364 15.24 5.9 1.456022 0.87978 6.26076 S1471 L.5/5.75-31 0.43 3.06 3.5 0.88 2.4 5.9 1.456021978 15.49 1.78 1.410142 -6.28122 5.4219 811 9/5/02 Pre EPA 6.5 1.16 812 9/5/02 lift soil S1472 K.5-17.5 31.4 -3.07 2.65 0.8 0.83 0.98 1.14 1.78 1.410141837 13.73 0.35 1.148564 -1.59588 4.64442 0.98208 3.92832 7.5 -0.78 2.27 -0.66 0.66 1.01 0.94 0.35 1.148564321 0.880909 813 9/6/02 background bkg090602 10.22 7.08 814 9/6/02 soil standard soilstd090602 36.9 0.48 1.92 5.99 0.56 1.09 0.68 7.08 0.880908622 13.64 1.79 1.142016 8.65458 4.95132 S1473 J.5/7 4.86948 815 9/6/02 overburden **OB#1** 31.5 4.23 2.42 0.94 0.69 0.85 0.91 1.79 1.142015762 11.47 3.63 1.208015 -2.49612 S1474 J.5/6 4.7058 816 9/6/02 overburden OB#2 34.7 -1.222.38 1.99 0.72 1.64 0.97 3.63 1.208014901 14.3 1.89 1.144028 3.19176 S1475 J.5/5 2.5 1.084066 -1.7391 4.58304 817 9/6/02 overburden OB#3 33.9 1.56 2.3 0.47 0.68 1.42 0.92 1.89 1.144027972 13.07 S1476 J.5/4 5.79018 818 OB#4 -0.85 1.64 0.86 0.86 2.5 1.084066419 17.23 2.11 1.386001 -1.20714 9/6/02 overburden 35.3 2.24 0.66 S1477 J.5/4 OBOC 34.6 -0.59 -0.59 1.174138 -0.02046 5.0127 819 9/6/02 overburden 2.83 0.99 0.83 1,12 1.11 2.11 1.386001443 15.15 7.62 1.188486 3.86694 5.2173 820 9/9/02 background bkg090902 7.5 -0.01 2.45 0.15 0.69 -0.74 0.95 -0.59 1.174137982 12.84 821 9/9/02 soil standard soilstd090902 36.9 1.89 2.55 0.74 0.93 7.62 1.188486432 13.38 -0.38 1.040433 2.39382 4.3989 5.64 1.98

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Nutranl Gamma Spec Report- 341 East Ohio Street Site Complete File of Nutrani Samples U-238 Th-232 Ra-226 Sample Sample Sample Description Weight U-238 Th-232 Ra-226 Total Radium | Total Radium Activity Activity ID Date Group Uncertainty Uncertainty Activity Uncertainty Activity Uncertainty 7.5 0.6 0.62 822 9/10/02 background bkg091002 1.17 2.15 0.85 -0.38 1.040432602 8.39 1.112115 4.95132 11.88 4.84902 9/10/02 soil standard soilstd091002 36.9 2.42 2.37 4.32 0.68 4.07 0.88 823 8.39 1.112115102 12.38 0.956033 -13.0126 3.7851 0.16 824 9/11/02 background bkg091102 7.5 -6.36 1.85 0.71 0.58 -0.55 0.76 0.16 0.956033472 10.35 8.76 0.962133 8.42952 4.25568 36.9 4.12 2.08 3.47 825 9/11/02 soil standard soilstd091102 5.29 0.59 0.76 8.76 0.962133047 11.73 2.09 0.922009 -2.51658 3.84648 33.5 -1.230.78 826 9/11/02 Pre EPA S1478 7-8.5/M-N 1.88 0.55 1.31 0.74 2.09 0.922008677 9.62 2.4 0.818413 8.40906 3.41682 S1479 8.5-10.5/M-N 32.1 4.11 1.67 -0.7 0.47 3.1 827 9/11/02 Pre EPA 0.67 2.4 0.818413099 12.9 2.48 1.114002 10.06632 4.86948 S1480 N.2-10.2 828 9/11/02 exclusion zone North Wall 26.4 4.92 2.38 1.19 0.67 1.29 0.89 2.48 1.114001795 12.68 0.96 4.46028 1.05 5.66742 S1481 L.5-N/7-9 EPA#1 31.8 2.77 2.18 0.29 0.63 0.67 0.84 829 9/11/02 EPA 0.96 1.05 12.06 1.58 0.958019 -8.184 3.72372 S1482 L.5-N/7-9 830 9/11/02 EPA EPA#2 32.8 -4 1.82 -0.01 0.57 1.59 0.77 1.58 0.958018789 10.4 1.48 0.852115 -2.43474 3.51912 S1483 L.5-N/7-9 1.32 11.49 831 9/11/02 EPA EPA#3 34.1 -1.19 1.72 0.16 0.5 0.69 1.48 0.852115016 1.26 0.914002 -2.98716 3.70326 S1484 L.5-N/7-9 832 9/11/02 EPA EPA#4 35 -1.46 1.81 0.65 0.55 0.61 0.73 1.26 0.914002188 11.38 1.57 1.010198 3.13038 4.092 S1485 L.5-N/7-9 833 9/11/02 EPA EPA#5 34.6 1.53 2 0.02 0.59 1.55 0.82 1.010198 10.27 0.43 0.79404 -0.38874 3.33498 1.57 S1486 L.5-N/9-3.7851 834 9/11/02 EPA 10.5 EPA#1 35.8 -0.191.63 0.19 0.47 0.24 0.64 0.43 0.794040301 10.43 1.09 0.90802 1.30944 S1487 L.5-N/9-835 10.5 EPA#2 35.3 0.64 1.85 1 0.54 0.09 0.73 1.09 0.908019824 11.94 2.04 1.016071 4.3989 4.21476 9/11/02 EPA S1488 L.5-N/9-836 9/11/02 EPA 10.5 EPA#3 36.1 2.15 2.06 0.26 0.6 1.78 0.82 2.04 1.016070864 6.33 2.28 0.530094 -4.97178 2.08692 S1489 L.5-N/9-10.5 EPA#4 35.2 -2.43 1.02 -0.04 0.31 2.32 0.43 2.28 0.530094331 12.04 1.69 0.938136 -3.49866 3.86694 837 9/11/02 EPA S1490 L.5-N/9-838 9/11/02 EPA 10.5 EPA#5 35.7 -1.71 1.89 -0.11 0.55 1.8 0.76 1.69 0.938136451 17.24 0.11 1.312098 -0.77748 5.70834 2.79 -0.97 0.65472 839 9/11/02 EPA Sand S1491 L-N/5-7 33.2 -0.381.08 0.8 1.04 0.11 1.312097557 15.71 0.18 1.208015 5.13546 9/11/02 EPA Sand S1492 L-N/7-9 2.51 0.06 0.72 0.12 0.97 0.18 1.208014901 12.72 0.99 1.040433 12.70566 4.58304 840 34.6 0.32 841 9/11/02 EPA Sand S1493 L-N/9-11 34.6 6.21 2.24 -0.14 0.6 1.13 0.85 0.99 1.040432602 64.22 240.66 9.273732 -186.493 44.1936 S1494 N-10 842 9/11/02 exclusion zone North Wall 25.9 -91.15 21.6 225.01 6.14 15.65 6.95 240.66 9.273731719 12.37 -0.67 0.893085 6.3426 3.76464 8.77 1.372771 -6.2403 5.79018 843 9/12/02 background bkg091202 7.5 3.1 1.84 -1.66 0.5 0.99 0.74 -0.67 0.893084542 13.84 6.26 -6.56766 4.43982 844 9/12/02 soil standard soilstd091202 36.9 -3.05 2.83 0.86 2.51 1.07 8.77 1.37277092 13.62 0.43 1.102089 bkq091302 -0.58 0.43 1.102088926 10.93 7.43 1.012126 10.3323 4.46028 845 9/13/02 background 7.5 -3.212.17 1.01 0.65 0.89 846 9/13/02 soil standard soilstd091302 36.9 5.05 2.18 3.72 0.62 3.71 8.0 7.43 1.012126474 27.27 69.37 3.474162 -7.07916 16.55214 59.58 2.27 9.79 2.63 -0.15 1.380036 -4.092 847 9/13/02 exclusion zone S1495 L-19 31.7 8.09 69.37 3.474161769 16.21 5.48328 -3.46 bkg091602 -0.15 1.380036231 12.5 1.196328 2.3529 5.2173 848 9/16/02 background 7.5 -2 2.68 1.17 0.82 -1.321.11 8.31 849 9/16/02 soil standard soilstd091602 36.9 2.55 5 22 0.74 3.09 0.94 8.31 1.196327714 12.45 -0.12 0.956033 -10.7824 3 86694 1.15 5.97432 850 9/17/02 background bkg091702 7.5 -5.271.89 1.58 0.58 -1.7 0.76 -0.12 0.956033472 15.12 7.92 1.38058 1.57542 851 9/17/02 soil standard soilstd091702 2.92 5.57 0.86 2.35 7.92 1.380579588 16.67 0.32 1.442671 0.36828 5.64696 36.9 1.08 0.77 852 9/18/02 background bkg091802 7.5 0.18 2.76 -0.96 0.83 1.28 1.18 0.32 1.442671134 11.03 8.47 1.052616 5.34006 4 66488 -1.96416 853 9/18/02 soil standard soilstd091802 36.9 2.28 5.7 0.66 2.77 0.82 8.47 1.052615789 21.17 11.19 2.331738 10.51644 2.61 854 9/18/02 exclusion zone S1496 G.5/21.5 31 -0.96 5.14 9.4 1.47 1.79 1.81 11.19 2.33173755 18.88 11.77 1.704142 5.36052 7.52928 9/18/02 exclusion zone S1497 G.5/22 855 30.5 2.62 3.68 6.03 1.04 5.74 1.35 11.77 1.704142013 12.42 1.14 0.972008 -0.49104 4.092 S1498 I-L/17.5-856 9/18/02 Pre EPA 19 #1 32.1 -0.24 2 0.53 0.58 0.61 0.78 1.14 0.97200823 13.51 1.51 1.130044 -1.20714 4.76718

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	Complete	File of Nutr	ani Samples				!										
Sample	Sample	Sample	Description	Weight	U-238	U-238	Th-232	Th-232	Ra-226	Ra-226	Total Radium	Total Radium					
ID	Date	Group			Activity	Uncertainty	Activity	Uncertainty	Activity	Uncertainty	Activity	Uncertainty					
			S1499 I-L/17.5-														
857	9/18/02 F		19 #2	32.9	-0.59	2.33				0.91		1.130044247			1.062544	5.87202	4 52166
858		packground	bkg091902	7.5	2.87	2.21	-1.37	0.61	1.36	0.87		1.062544117			1.120045	5.66742	4.72626
859		soil standard	soilstd091902	36.9	2.77	2.31	3			0.89		1.120044642			1.660271	-16.2657	6.73134
860	9/19/02 E		K-18.5 SPOT	35.8	-7.95	3.29		1.02		1.31		1.660271062		7.09	1.572673		7.161
861	9/19/02 E		K-18.5 SPOT2	35.8	5.96	3.5		0.98		1.23		1.572672884	23.75	4.43	1.98658	1.41174	8.71596
862	9/19/02 E	=PA	K-18.5 SPOT3	36.4	0.69	4.26	3.99	1.23	0.44	1.56	4.43	1.986579976	12.57	1,33	0.960208	1.2276	4.05108
863	9/19/02 E	EPA Sand	S1503 L-N/11-13	36	0.6	1.98	-0.09	0.56	1.42	0.78	1.33	0.960208311	10.35	1.98	0 838153	0.24552	3.4782
864	9/19/02 E	EPA Sand	S1504 L-N/13-15	34.7	0.12	1.7	0.32	0.49	1.66	0.68	1.98	0.838152731	10.46	1.47	0.880057	5.2173	3.82602
865	9/19/02 E	EPA Sand	S1505 L-N/15-17	34.7	2.55	1.87	0.54	0.52	0.93	0.71	1.47	0.880056816	12.15	0.85	0.972008	-2.02554	4.03062
866	9/19/02 E	EPA Sand	S1506 L-N/17-19	32.7	-0.99	1.97	0.26	0.58	0.59	0.78	0.85	0.97200823	12.93	2.28	1.134637	2.70072	4.64442
867	0/10/02 [EPA Sand	S1507 L-N/19-21	35.6	1.32	2.27	-0.55	0.65	2.83	0.93	2.28	1.134636506	14.03	0.33	1.030049	2.4552	4.5012
868		EPA Sand	S1507 L-10/19-21 S1508 I-L/17-19	33.7	1.32	2.27				0.83		1.030048543			1.456606	-3.5805	5.91294
869		EPA Sand	S1509 I-L/19-21	34.8	-1.75	2.89				1.19		1.456605643		0.22			3.3759
003	3/13/02 1	_i A Sand	S1510 I-J.5/17.5-	. 04.0	1.75	2.00	0.2	0.04	1.17		1.04	1.4000000	10.01	0.22	0.75404	2.70717	0.07.03
870	9/19/02 E	EPA	19 EPA#1 S1511 I-J.5/17.5-	35.1	1.19	1.65	-0.11	0.47	0.33	0.64	0.22	0.794040301	12.65	1.46	1.040433	4.46028	4.35798
871	9/19/02 E	=PA	19 EPA#2	34.1	2.18	2.13	-0.1	0.6	1.56	0.85	1.46	1.040432602	11.92	1.2	0.994032	-3.02808	4.07154
	07,10702	:	S1512 I-J.5/17.5-										, , , ,				
872	9/19/02 E	EPA	19 EPA#3	32.1	-1.48	1.99	0.48	0.59	0.72	0.8	1.2	0.994032193	12.55	2.15	1.036002	-5.60604	4.17384
			S1513 I-J.5/17.5-														
873	9/19/02	EPA	19 EPA#4	35	-2.74	2.04	1.04	0.62	1.11	0.83	2.15	1.036001931	9.75	0.71	0.766094	5.7288	3.29406
			S1514 I-J.5/17.5-														
874	9/19/02 E	=PĄ	19 EPA#5	34.2	2.8	1.61	-0.36	0.45	1.07	0.62	0.7]	0.766093989	10.74	0.36	0.836002	-0.34782	3.60096
			S1515 J.5-L/17.5-														
, 875	9/19/02	EPA	19 EPA#1	. 34	-0.17	1.76	0.49	0.5	-0.13	0.67	0.36	0.836002392	11.82	3.1	1.058017	3.9897	4.33752
			S1516 J.5-L/17.5-														
876	9/19/02	EPA	19 EPA#2	33.1	1.95	2.12	0.56	0.63	2.54	0.85	3.1	1.058017013	11.46	2.17	0.914002	-1.3299	3.8874
			04547 151 475														
877	9/19/02 E	EDA	S1517 J.5-L/17.5- 19 EPA#3	34	-0.65	1.9	0.82	0.55	1.35	0.73	2 17	0.914002188	14.56	2 77	1.248079	-4.17384	5.0127
0,,	3/10/02 1	-	10 21 740	04	0.00	1.5	0.02	0.00	1.00	0.70	2.17	0.014002100	14.00		1.2 10070		0.0.27
			S1518 J.5-L/17.5-														
878	9/19/02	EPA	19 EPA#4	32	-2.04	2.45	1.55	0.76	1.22	. 0.99	2.77	1.248078523	16.78	2.69	1.396173	-0.98208	5.79018
			S1519 J.5-L/17.5-														
879	9/19/02	EPA	19 EPA#5	34	-0.48	2.83	-0.23	0.82	2.92	1.13	2 69	1.396173342	19.1	0.07	1.600781	0.87978	6.46536
880		background	bkg092002	7.5	0.43	3.16				1.31		1.600781059			1.148085		4.78764
881		soil standard	soilstd092002	36.9	-4.71	2.34		0.7		0.91		1.148085363		-0.32			4.93086
882		background	bkg092302	7.5	3.32	2.41	-0.7			0.9		1.110180166		6.8			4 66488
883		soil standard	soilstd092302	36.9	1.78	2.28				0.83	•	1.054229577			1.026158		4.3989
884	9/24/02 t	background	bkg092402	7.5	-0.33	2.15				0.81		1.026157883		9.06	-		5.05362
885	9/24/02 \$	soil standard	soilstd092402	36.9	0.81	2 47	4 58	0 71	4 48	0 93	9 06	1.170042734	12 98		0.982293		4.11246
886		background	bkg092502	7.5	0.11	2.01						0.982293235			1.146342		5.05362
887	9/25/02	soil standard	soilstd092502	36.9	0.98	2.47	5.17	0.71	2.08	0.9	7.25	1.146342008	15.43	2.01	1.226418	0.96162	5.09454

Nutranl Gamma Spec Report- 341 East Ohio Street Site Complete File of Nutrani Samples Weight U-238 Th-232 Ra-226 U-238 Th-232 Ra-226 **Total Radium** Sample Sample Sample Description **Total Radium** Activity Activity Uncertainty Activity Uncertainty iD Date Uncertainty Activity Group Uncertainty 888 9/25/02 EPA Sand S1520 J-N/21-22 34.4 0.47 2.49 0.41 0.71 1.6 2.01 1.226417547 9.82 1.71 0.8 -7.93848 3.1713 889 9/25/02 EPA Sand S1521 J-N/22-23 35.1 -3.881.55 1.04 0.48 0.67 0.64 1.71 08 12.75 2.49 1.11252 -6.26076 4.41936 9/25/02 EPA Sand S1522 J-N/23-24 33.2 -3.062.16 0.71 0.64 1.78 0.91 2.49 1.112519663 10.15 1.92 0.85 -3.94878 3.49866 890 S1523 J-N/24-25 33.9 -1.931.71 1.12 0.51 8.0 0.68 1.92 0.85 10.65 1.31 0.79404 -3.04854 3.31452 891 9/25/02 EPA Sand 892 9/25/02 EPA Sand S1524 J-N/25-26 36.5 -1.49 1.62 0.1 0.47 1.21 0.64 1.31 0.794040301 13.58 2.35 1.242014 -1.6368 5.15592 9/25/02 EPA Sand S1525 J-N/26-27 33 -0.8 2.52 1.67 0.75 0.68 0.99 2.35 1.242014493 16.35 1.21 1.292749 1.10484 5.40144 893 S1526 F-H/24.5-34.4 0.54 2.64 -0.230.74 1.44 14.94 1.98 1.220656 -1.20714 894 9/25/02 EPA Sand 1.06 1.21 1.292749009 4.86948 S1527 D-F/24.5-895 9/25/02 EPA Sand 27 35 -0.592.38 -0.230.7 2.21 1 1.98 1.220655562 12.25 0.88 1.012126 -5.34006 4.25568 S1528 H-J/24.5-9/25/02 EPA Sand 27 36.4 -2.612.08 1.88 0.62 -1 0.8 0.88 1.012126474 11.87 -0.1 0.966075 -2.47566 3.92832 896 7.5 1.92 -0.290.57 0.19 0.78 13.57 5.6265 897 9/26/02 background bkg092602 -1.21-0.1 0.966074531 9.45 1.284056 6.01524 898 9/26/02 soil standard soilstd092602 36.9 2.94 2.75 5.21 0.78 4.24 1.02 9.45 1.284056074 23.99 28.52 2.527449 2.57796 11.5599 15.94 8.42 1.432236 1.45266 6.2403 899 9/26/02 exclusion zone S1529 G.5/24.2 31.4 1.26 5.65 20.33 1.62 8.19 1.94 28.52 2.527449307 S1530 900 9/26/02 exclusion zone G.75/23.75 24 0.71 3.05 4.5 0.88 3.92 1.13 8.42 1.432236014 11.13 -0.02 0.860233 2.10738 3.56004 901 9/30/02 background bkg093002 7.5 1.03 1.74 -0.46 05 0.44 0.7 -0.02 0.860232527 11.98 7.94 1.094806 6.01524 4.95132 2.94 2.42 1.31 7.94 1.094805919 27.2 35.02 3.14587 11.78496 14.79258 9/30/02 soil standard soilstd093002 36.9 6.63 0.69 0.85 902 903 9/30/02 exclusion zone S1531 C.1-24 21.9 5.76 7.23 26.82 2.01 82 2.42 35.02 3.145870309 13.37 1.32 1.018332 1.45266 4.17384 S1532 G-H.5/20-9.47 904 9/30/02 EPA 22.5 EPA#1 34.9 0.71 2.04 -0.870.59 2.19 0.83 1.32 1.018331969 1.48 0.706045 -8.98194 2.82348 S1533 G-H.5/20-9/30/02 EPA 22.5 EPA#2 34.8 -4.39 1.38 0.55 0.43 0.93 0.56 1.48 0.706045324 9.8 2.03 0.816088 -4.01016 3.31452 905 S1534 G-H.5/20-22.5 EPA#3 33.8 -1.96 1.62 0.54 0.48 1.49 0.66 2.03 0.816088231 10.11 1.35 0.83006 1.20714 3.43728 906 9/30/02 EPA S1535 G-H.5/20-9/30/02 EPA 22.5 EPA#4 35.4 0.59 1.68 0.21 0.49 1.14 0.67 1.35 0.830060239 12.34 1.91 1.040433 -0.57288 4.25568 907 S1536 G-H.5/20-22.5 EPA#5 9/30/02 EPA 2.08 0.17 1.74 0.85 1.91 1.040432602 12.39 2.23 1.074151 1.1253 4.3989 908 34.6 -0.280.6 S1537 G-H.5/22.5-24.5 909 9/30/02 EPA EPA#1 34.1 0.55 2.15 0.57 0.63 1.66 0.87 2.23 1.074150827 13.79 1.76 1.118302 6.40398 4.7058 S1538 G-H.5/22.5-24.5 -0.2 0.65 1.96 0.91 12.81 2.22 1.080046 -1.71864 4.37844 910 9/30/02 EPA EPA#2 33.9 3.13 2.3 1.76 1.118302285 S1539 G-H.5/22.5-24.5 911 9/30/02 EPA EPA#3 33.4 -0.842.14 0.38 0.64 1.84 0.87 2.22 1.080046295 13.26 1.67 1.178898 7.34514 4.88994 S1540 G-H.5/22.5-24.5 912 9/30/02 EPA EPA#4 26.9 3.59 2.39 -1 0.67 2.67 0.97 1.67 1.17889779 12.13 1.3 1.010198 7.48836 4.2966 S1541 G-H.5/22.5-24.5 EPA#5 33.4 0.82 16.87 1.69 1.286002 -6.91548 5.17638 913 9/30/02 EPA 3.66 2.1 0.32 0.59 0.98 1.3 1.010198

N	lutranl (Gamma S	pec Report-	341 East	Ohio S	treet Sit	е							-			
	Complete	File of Nutr	ani Samples						1								
Sample	Sample	Sample	Description	Weight	U-238	U-238	Th-232	Th-232	Ra-226	Ra-226	Total Radium	Total Radium					
ID	Date	Group			Activity	Uncertainty	Activity	Uncertainty	Activity	Uncertainty	Activity	Uncertainty					
			S1542 A-C.5/21-							-	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		'	,	'	1	
914	9/30/02	EPA Sand	22	32.2	-3.38	2.53	0.15	0.77	1.54	1.03	1.69	1.286001555	14.17	0.88	1.070047	-3 23268	4.43982
}			S1543 A-B.5/25-														
915	9/30/02	EPA Sand	27	35.1	-1.58	2.17	0.95	0.65	-0.07	0.85	0.88	1.070046728	13.37	1.11	1.1	-1.41174	4.46028
			S1544 B.5-D/25-														1
916	9/30/02	EPA Sand	27	31.6	-0.69	2.18		0.66		0.88		1,1	15.92	1.96	1.338096	-10.6597	5.36052
917	9/30/02	EPA Sand	S1545 I-J/21-24	33.8	-5.21	2.62		0.79		1.08		1.338095662	10.86	-0.88		11.19162	3.74418
918	10/1/02	background	bkg100102	7.5	5.47	1.83		0.51		0.65		0.826196103	9.56		0.860523	-7.7748	3.72372
919	10/1/02	soil standard	soilstd100102	36.9	-3.8	1.82	6.24	0.54	2.31	0.67	8.55	0.860523097	10.47	0.19	0.786003	0.16368	3.25314
1			S1546 B.5-														
920	10/1/02	EPA	D/23.5-25 EPA#1	31.9	0.08	1.59	0.07	0.47	0.12	0.63	0.19	0.786002545	10.03	1.28	0.788162	6.4449	3.39636
			S1547 B.5-														
921	10/1/02	EPA	D/23.5-25 EPA#2	33.6	3.15	1.66	-0.15	0.46	1.43	0.64	1.28	0.78816242	9.4	0.71	0.720069	-0.1023	3.08946
			S1548 B.5-														
922	10/1/02	EPA	D/23.5-25 EPA#3	33.9	-0.05	1.51	1.05	0.44	-0.34	0.57	0.71	0.720069441	9.22	1.98	0.818413	6.6495	3.41682
"-				-				• • • • • • • • • • • • • • • • • • • •	0.0.	-	•., .		• • • • • • • • • • • • • • • • • • • •		0.0.0		0
J			S1549 B.5-														ļ
923	10/1/02	EPA .	D/23.5-25 EPA#4	323	3.25	1.67	0.3	0.47	1.68	0.67	1.98	0.818413099	11.17	1.86	0.922009	-0.18414	3.76464
			S1550 B.5-														
924	10/1/02	EPA	D/23.5-25 EPA#5	32.6.	-0.09	1.84	0.4	0.55	1.46	0.74	1.86	0.922008677	15.81	1.43	1.214907	-1.55496	4.78764
925	10/1/02	EPA Sand	S1551 A-D/22-23	32.6	-0.76	2.34	-1.77	0.66	3.2	1.02	1 43	1.214907404	18.26	-0.56	1.324122	13 56498	5.9334
323	10/1/02	Li A Salia		02.0	0.70	2.04	1.,,,	0.00	0.2	1.02	1.40	1.21 1007 101	10.20	0.00	1.02.4122	10.00100	0.555
926	10/1/02	EPA Sand	S1552 A-D/23-25	32.8	6.63	2.9	-0.01	0.78	-0.55	1.07	-0.56	1.324122351	13.43	2.3	1.120714	-2.57796	4.5012
			S1553 C.5-G/21-									•					1
927	10/1/02	EPA Sand	22	32.9	-1.26	2.2	0.04	0.64	2.26	0.92	2.3	1.120714058	17.95	0.63	1.436802	8.63412	6.4449
1			S1554 D-G/22-										•		-		
928	10/1/02	EPA Sand	23	35	4.22	3.15	1.16	0.9	-0.53	1.12	0.63	1.436802004	12.88	0.69	0.970052	-15.1199	3.76464
			S1555 D-G/23-														
929		EPA Sand	24.5	33.7	-7.39	1.84				0.77		0.970051545	13.93				
930	10/1/02	EPA Sand	S1556 G-I/20-21	33.8	- 5.57	1.99	-1.06	0.63	2.85	0.89	1.79	1.090412766	15.22	0.87	1.158016	0.38874	4.72626
			\$1557 G-H/21-														
931	10/1/02	EPA Sand	24.5	32.3	0.19	2.31	-0.38	0.69	1.25	0.93	0.87	1.158015544	13.38	1.93	1.05603	-4.01016	4.41936
			S1558 H-I/21-										40			4 00 40 -	
932		EPA Sand	24.5	33.9	-1.96	2.16				0.84		1.056030303	13.92	8.88	1.274402	-1.98462	5.50374
933	10/3/02	soil standard	soilstd100302	36.9	-0.97	2.69	5.44	0.79	3.44	!	8.88	1.27440182	·			1	



RSSI Gamma Spectroscopy

RSSI High Resolution Gamma Spectroscopy Analysis
2=====================================
GDR_C Nuclide Activity Summary
######################################
Sample ID: 023328 STS PROJECT# TRS B.5-D/23.5-25
Sample Size 8.92e+002 g Spectrum File . h:\pcaspec\023328.spm Sampling Start 00-00-00 00:00 Counting Start 10-03-02 10:45 Sampling Stop
Efficiency File.h:\gdr\eff\500mar.eff Library Fileh:\gdr\lib\nuthk.lib ID
Eff.= 1/[7.31e-002*En^-2.40e+000 + 7.89e+001*En^8.95e-001] 04-26-02 12:00
Gamma Fraction Limit >= 71.00 % Decay Limit <= 8.000 Halflives Library Energy Tolerance 1.20

FINAL ACTIVITY REPORT

Nuclide	Energy (keV)	Conc +- (uCi/g	1.00sigma)	Halflife (hrs)		aks ind	
U-234 K-40	53.20 1460.80			2.14e+009 1.12e+013	1 of 1 of	1	
TCTAL:		8.84e-006	uCi/g				

UNKNOWN PEAKS

~ 4	Centroid Charnel		Un- Certainty	C.L. Counts	Bkg. Counts	FWHM (keV)	Net Gamma/sec
295.28 351.79 583.08	985.50 1216.34 1447.08 2391.52 2498.94	301 203 241 111 168	54 38 38 25 27	104 71 71 46 48		1.59 1.16 2.04	2.021e+000 1.570e+000 2.134e+000 1.509e+000 2.375e+000

NOV 01 2002 1:40PM RSSI

######################################
RSSI High Resolution Gamma Spectroscopy Analysis
Quantum Technology GDR_C Nuclide Activity Summary
#======================================
Sample ID: 023329 STS PROJECT# TRS G-H.S/20-22.5
Sample Size 8.40e+002 g Spectrum File H:\PCASPEC\023329.SPM Sampling Start
Efficiency File.h:\gdr\eff\500mar.eff Library Fileh:\gdr\lib\nuthk.lib ID
Eff.= 1/[7.31e-002*En^-2.40e+000 + 7.89e+0C1*En^8.95e-001] 04-26-02 12:00
Gamma Fraction Limit >= 71.00 % Decay Limit <= 8.000 Halflives Library Energy Tolerance 1.20
FINAL ACTIVITY REPORT
Constitution of the Consti

Nuclide	Energy (keV)	Conc +- (uCi/g	1.00sigma)	Halflife (hrs)	Pea Fou		
U-234 K-40	53.20 1460.80	9.13e-006	I.D.Only +-3.54e-007	2.14e+009 1.12e+013	1 of 1 of	1	
TOTAL:	·	9.13e-006	uCi/g	*			

UNKNOWN PEAKS

Energy (keV)	Centroid Channel	Counts			Bkg. Counts	FWHM (keV)	Net Gamma/sec
	1215.84 1447.79 2392.30	372 190 214 103 197	53 33 33 23 27	101 61 59 42 44	532 203 193 80	2.18 1.40 1.54	2.496e+000 1.469e+000 1.895e+000 1.401e+000 2.785e+000

RSSI

RSSI High Resolution Gamma Spectroscopy Analysis Quantum Technology GDR_C Nuclide Activity Summary Sample ID: 023330 STS PROJECT# TRS C.1-24 Sample Size 8.78e+002 g | Spectrum File . . H:\PCASPEC\023330.SPM Sampling Stop00-00-00 0C:00 | Buildup Time.0.00e+000 Hrs Current Date.00-00-00 CC:00 | Decay Time [OFF]. 0.00e+000 Hrs ______ Efficiency File.h:\gdr\eff\500mar.eff | Library File. . . .h:\gdr\lib\nuthk.lib ~______ Eff.= 1/[7.31e-002*En^-2.40e+000 + 7.89e+001*En^8.95e-001] 04-26-02 12:00 Gamma Fraction Limit >= . . . 71.00 % | Decay Limit <= . . . 8.000 Halflives Library Energy Tolerance. . . 1.20

FINAL ACTIVITY REPORT

Nuclide	Energy (keV)		1.00sigma)	Halflife (hrs)		aks und	~
Bi-214	727.17 1120.30	1.93e-006 8.41e-006 1.77e-006	+-6.84e-008 +-7.84e-008 +-3.58e-007 +-2.18e-007 +-2.12e-007	3.32e-001	4 of	10	
U-234 Pt-212	53.20 Average: 74.82 77.11 87.30 238.63 300.09	1.41e-005 1.43e-005 1.26e-005 1.10e-005 1.43e-005		2.14e+009 1.06e+001			
Fb-214	74.82 87.30	2.11e-006 2.11e-006 2.11e-006 1.87e-006	+-6.71e-008 +-1.14e-006 +-9.84e-007 +-2.45e-007 +-1.47e-007 +-7.98e-008	4.47e-001	5 of	6	
Th-228 Ac-228	84.37 Average: 89.95 93.35 209.28 270.23 327.64 338.32	1.47e-005 2.98e-005 1.97e-005 1.17e-005 1.46e-005 1.11e-005	+-6.34e-006 +-1.36e-007 +-1.84e-006 +-1.58e-006 +-7.17e-007 +-8.61e-007 +-9.30e-007 +-2.99e-007				

8479651991

TOTAL:		7.14e-005 uCi/g	_
Ra-224 K-40	969.11 240.98 1460.80	1.57e-005 +-2.90e-007 1.17e-005 +-4.64e-007 8.69e+001 1 of 1 9.31e-006 +-4.55e-007 1.12e+013 1 of 1	
	463.00 794.70 911.07	1.21e-005 +-6.75e-007 1.34e-005 +-7.37e-007 1.50e-005 +-2.12e-007	

UNKNOWN PEAKS

Energy (keV)	Centroid Channel		Un- Certainty				
======					**======		
105.31		781	202	415	8288	1.50	
129.24	538.38	1666	198	399	8358	1.60	1.044e+001
277.25	1142.72	1152	161	338	3756	1.64	8.518e+000
409.44	1682.48	933	89	173	1438	1.68	9.357e+000
510.60	2095.54	2921	98	168	1296	2.28	3.538e+001
562.42	2307.13	363	69	138	961	2.03	4.782e+000
583.13	2391.74	9134	124	166	1225	1.97	1.242e+002
755.33	3094.90	322	60	120	664	1.20	5.503e+000
772.45	3164.83	255	59	117	718	2.12	4.445e+000
835.58	3422.62	272	53	104	543	0.98	5.085e+000
860.46	3524.22	1119	57	95	416	1.94	2.147e+001
964.68	3949.85	1263	50	73	226	2.26	2.683e+001
1587.78	6494.79	336	49	96	408	2.46	1.114e+001
1620.59	6628.81	210	31	57	139	2.20	7.091e+000
1630.55	6669.49	246	32	58	140	1.92	8.353e+000



Pesticide

Pesticide Results Summary 341 East Ohio Street (Revised 10/16/02)

			Chlordane			Laboratory	Constituent Cor	ncentration Resu	ults ⁴ (mg/kg)		
Sample Location ¹		Sample Type ²	Immunoassay Field Klt ³ (mg/kg)	Aldrin	alpha BHC	Chlordane (tech)	Dieldrin	Heptachlor	Heptachlor Epoxide	Lindane (gamma BHC)	4,4'-DDT
F-4	07/26/2002	base	0.534	ND(0.038)	ND(0.038)	ND(0.38)	ND(0.038)	ND(0.038)	ND(0.038)	ND(0.038)	ND(0.038)
F-6	07/26/2002	base	0.437	ND(0.038)	ND(0.038)	ND(0.38)	ND(0.038)	ND(0.038)	ND(0.038)	ND(0.038)	ND(0.038)
F-10	07/26/2002	base	0.068	ND(0.036)	ND(0.036)	ND(0.36)	ND(0.036)	ND(0.036)	ND(0.036)	ND(0.036)	ND(0.036)
F-8	07/31/2002	base	0.005	ND(0.036)	ND(0.036)	ND(0.36)	ND(0.036)	ND(0.036)	ND(0.036)	ND(0.036)	ND(0.036)
H-6	07/31/2002	base	1.48	ND(0.039)	ND(0.039)	ND(0.39)	ND(0.039)	0.36	ND(0.039)	ND(0.039)	ND(0.039)
H-10	07/31/2002	base	0.157	ND(0.021)	ND(0.021) ^c	ND(0.42)	ND(0.042)	ND(0.042)	ND(0.042)	ND(0.042)	ND(0.042)
H-12	07/31/2002	base	0.804	ND(0.039)	ND(0.039)	ND(0.39)	ND(0.039)	ND(0.039)	ND(0.039)	ND(0.039)	ND(0.039)
H-4	08/01/2002	base	0.004	ND(0.035)	ND(0.035)	ND(0.35)	ND(0.035)	ND(0.035)	ND(0.035)	ND(0.035)	ND(0.035)
H-8	08/01/2002	base	0.009	ND(0.035)	ND(0.035)	ND(0.35)	ND(0.035)	ND(0.035)	ND(0.035)	ND(0.035)	ND(0.035)
l-2	08/02/2002	sidewall	0.009	ND(0.020)	ND(0.020)°	ND(0.41)	ND(0.041)	ND(0.041)	ND(0.041)	ND(0.041)	ND(0.041)
1-4	08/02/2002	sidewall	0.246	ND(0.040)	ND(0.040)	ND(0.40)	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)
1-6	08/02/2002	sidewall	0.246	ND(0.021)	ND(0.021) ^c	ND(0.42)	ND(0.042)	0.049	ND(0.042)	ND(0.042)	ND(0.042)
H-6(2)*	08/13/2002	base	0.041	0.049	ND(0.094)	13	0.051 J	1.4	ND(0.370)	ND(0.094)	0.029 J
H-14	08/14/2002	base	0.0	ND(0.0018)	ND(0.0018)	ND(0.018)	ND(0.0018)	ND(0.0018)	0.0007 J	ND(0.0018)	ND(0.0018)
F-16	08/20/2002	base	0.007	ND(0.002)	0.00059 J	ND(0.020)	ND(0.002)	ND(0.002)	ND(0.0078)	ND(0.002)	ND(0.002)
F-18	08/20/2002	base	0.084	0.001 J	ND(0.0021)	ND(0.021)	ND(0.0021)	ND(0.0021)	ND(0.0081)	ND(0.0021)	ND(0.0021)
F-21	08/20/2002	sidewall	0.874	ND(0.0021)	ND(0.0021)	ND(0.021)	ND(0.0021)	ND(0.0021)	0.0052 J	ND(0.0021)	ND(0.0021)
F-14	08/20/2002	sidewali	0.719	ND(0.002)	ND(0.002)	ND(0.020)	ND(0.002)	ND(0.002)	0.0046 J	ND(0.002)	ND(0.002)
I-16	08/20/2002	sidewall	0.486	ND(0.002)	ND(0.002)	0.068	0.005	0.0037	ND(0.0079)	ND(0.002)	ND(0.002)
1-18	08/20/2002	sidewall	0.008	ND(0.0018)	ND(0.0018)	ND(0.018)	ND(0.0018)	ND(0.0018)	ND(0.0018)	ND(0.0018)	ND(0.0018)
H-16	08/23/2002	base	0.001	ND(0.0019)	ND(0.0019)	ND(0.019)	ND(0.0019)	ND(0.0019)	ND(0.0019)	ND(0.0019)	ND(0.0019)
H-18	08/23/2002	base	0.036	ND(0.0097)	ND(0.0097)	ND(0.097)	ND(0.0097)	0.012	0.058 J	ND(0.0097)	ND(0.0097)
D0.5-16	08/23/2002	vertical	0.019	0.00082 J	0.00076 J	ND(0.022)_	0.00081 J	0.0015 J	ND(0.0086)	ND(0.0022)	ND(0.0022)
D0.5-18	08/23/2002	vertical	0.05	ND(0.021)	ND(0.021)	ND(0.210)	ND(0.021)	0.031	ND(0.043) ^c	ND(0.021)	ND(0.021)
D0.5-20	08/23/2002	vertical	0.734	0.015 J	0.0062 J	ND(0.230)	ND(0.023)	0.019 J	0.055 J	ND(0.023)	0.0085 J
J0.5-8	08/23/2002	vertical	0.009	ND(0.022)	ND(0.022)	ND(0.220)	ND(0.022)	ND(0.022)	ND(0.022)	ND(0.022)	ND(0.022)
F-12	08/29/2002	base	0.006	0.00047 J	ND(0.002)	ND(0.020)	0.0011 J	0.0035	ND(0.0079)	ND(0.002)	0.00043 J
F-14	08/29/2002	base	0.022	ND(0.002)	ND(0.002)	ND(0.020)	ND(0.002)	ND(0.002)	ND(0.0077)	ND(0.002)	ND(0.002)
G-20	08/29/2002	base	0.012	ND(0.0018)	ND(0.0018)	ND(0.018)	ND(0.0018)	ND(0.0018)	ND(0.0072)	ND(0.0018)	ND(0.0018)
J-16.5	08/29/2002	base	0.002	ND(0.0018)	ND(0.0018)	ND(0.018)	ND(0.0018)	ND(0.0018)	ND(0.0073)	ND(0.0018)	ND(0.0018)
J-12	09/04/2002	base	0.002	ND(0.0018)	ND(0.0018)	ND(0.018)	ND(0.0018)	ND(0.0018)	ND(0.0072)	ND(0.0018)	ND(0.0018)
J-14	09/04/2002	base	0.002	ND(0.0019)	ND(0.0019)	ND(0.019)	ND(0.0019)	ND(0.0019)	ND(0.0074)	ND(0.0019)	ND(0.0019)
K-12	09/04/2002	vertical	0.001	ND(0.020)	ND(0.020)	ND(0.200)	ND(0.020)	ND(0.020)	ND(0.039) ^c	ND(0.020)	ND(0.020)
K-14	09/04/2002	vertical	0.013	ND(0.019)	ND(0.019)	ND(0.190)	ND(0.019)	ND(0.019)	ND(0.038)°	ND(0.019)	ND(0.019)
H-6(3) ^d	10/03/2002	base	ND-0.039°	ND(0.0021)	ND(0.0021)	ND(0.021)	ND(0.0021)	0.0075	ND(0.0021)	ND(0.0021)	ND(0.0021)
<u> </u>	Clean-up Ot	ojective ⁵ (mg/kg	a)	0.04	0.1	1.8	0.04	0.1	0.07	0.5	2

Notes: Shaded values indicate an exceedance of clean-up objective

- 1- Sample location is the center point of the 10 X 10 meter grid for base of excavation samples. The location designation for vertical samples indicates the actual sample location.
- 2 Base Composite sample from the base of the excavation (five grab samples from 100 m2 area). Sidewall - Vertical composite of five grab samples from excavation side wall.
- 3 The chlordane immunoassay kit does not differentiate between chlordane and other cyclodienes such as heptachlor, refer to method documentation for information on the relative sensitivities.
- 4 Severn Trent Services (STL), Earth City, Missouri. (Lab qualifiers: ND not detected, J estimated value)
- 5 Bold and italic sample results indicate an exceedance of the clean-up objective (35 IAC 742, Appendix B, Table A).
- a Resample following excavation of additional soil.
- b Depth below previous excavation.
- c Reporting limit for the constituent lowered to listed value after review of the chromatographic data by the laboratory.
- d Sample collected following the excavation of an additional 1 foot of soil (i.e., approximately 12 feet below original asphalt grade).
- e Three individual immunoassay tests were run on a series of geoprobe samples to determine depth of excavation necessary to remove contaminants.



Field Immunoassay

		Sample Bat	ch Information	
	Standards (ppb)		Absorbance	Estimated Concentration (ug/L)
Ţ	0		1.79	1
Ì	100		1.12	110
	600		0.89	560
06/24/2002	Samples	Description	Absorbance	Estimated Concentration (ug/kg)
Ì	H½-9	surface	0.82	2754
	H½-9¾	surface	0.4	>3000
	H½-9¾ dup	surface	0.38	>3000
	H-10½	surface	0.38	>3000
	H-10½ rep	surface	0.42	>3000
	G-9½	surface	0.74	>3000
	<u> </u>	Note: Sample calculation	on includes a 3-fold dilu	ıtion
	Standards (ppb)		Absorbance	Estimated Concentration (ug/L)
Ī	0		1.57	1
	100		0.95	60
	600		0.53	869
ļ		<u></u>		
ł		Description	l	Estimated
	Samples	Description	Absorbance	Concentration (ug/kg)
06/25/2002	G34-434	surface	Absorbance 0.2	Concentration (ug/kg) >3000
06/25/2002		<u> </u>		
06/25/2002	G ³ / ₄ -4 ³ / ₄	surface	0.2	>3000
06/25/2002	G ³ / ₄ -4 ³ / ₄ H ¹ / ₄ -6	surface surface surface surface	0.2 1.07 0.31 0.51	>3000 139 >3000 >3000
06/25/2002	G¾-4¾ H¼-6 G¼-8 G½-12½ G½-12	surface surface surface surface surface	0.2 1.07 0.31 0.51 0.43	>3000 139 >3000 >3000 >3000
06/25/2002	G¾-4¾ H¼-6 G¼-8 G½-12½ G½-12 I¾-10	surface surface surface surface	0.2 1.07 0.31 0.51 0.43 1.32	>3000 139 >3000 >3000 >3000 28
06/25/2002	G¾-4¾ H¼-6 G¼-8 G½-12½ G½-12	surface surface surface surface surface	0.2 1.07 0.31 0.51 0.43	>3000 139 >3000 >3000 >3000

Date		Sample Bat	ch Information	
	Standards (ppb)	•	Absorbance	Estimated Concentration (ug/L)
	0		1.17	1
	100		0.8	51
	600		0.51	972
06/27/2002				
00/21/2002	Samples	Description	Absorbance	Estimated Concentration (ug/kg)
	1/2-11/2	surface	0.32	>3000
	1½-11½, new extract	surface	0.52	>3000
	Notes:	Original extract not refriger	ated, new sample more re	epresentative
		Sample calculation inclu	des a 5-fold dilution	
	Standards (ppb)		Absorbance	Estimated Concentration (ug/L)
	0		1.14	2
	100		0.83	38
	600		0.53	794
06/27/2002	Samples	Description	Absorbance	Estimated Concentration (ug/kg)
	H-14	surface	0.16	>3000
	F½-13½	surface	0.23	>3000
	I-13½	surface	0.75	495
	1-13½ dup	surface	0.77	396
	J-13	surface	0.23	>3000
	I-4½	surface	1.13	7
		Note: Sample calculati	on includes a 5-fold dilu	ution
	•	<u> </u>		
	Standards (ppb)		Absorbance	Estimated Concentration (ug/L)
	0		0.92	1
	100	··· <u> </u>	0.72	33
	600		0.49	1321
		· · · · · · · · · · · · · · · · · · ·		
06/28/2002	Samples	Description	Absorbance	Estimated Concentration (ug/kg)
	F-16	surface	0.35	>3000
	H-16	surface	0.56	2156
	H-16 dup	surface	0.38	>3000
	K-14	surface	0.79	54
			on includes a 5-fold dilu	

Date		Sample Batcl	h Information	
	Standards (ppb)		Absorbance	Estimated Concentration (ug/L
	0		1.1	1
	100		0.8	34
	600		0.46	1308
06/28/2002				
	Samples	Description	Absorbance	Estimated Concentration (ug/kg
	F-16	surface	0.71	446
	L-12	surface	0.29	>3000
		Note: Sample calculation	includes a 5-fold dilu	ution
	Standards (ppb)		Absorbance	Estimated Concentration (ug/L
	0		0.96	1
	100		0.7	29
	600		0.36	1470
				Takina ata d
	Samples	Description	Absorbance	Estimated Concentration (ug/kg
07/16/2002	Samples F-9.5 0-3'	Description Vertical delineation	Absorbance 0.24	
07/16/2002				Concentration (ug/kg
07/16/2002	F-9.5 0-3'	Vertical delineation	0.24	Concentration (ug/kg
07/16/2002	F-9.5 0-3' F-9.5 3-6'	Vertical delineation Vertical delineation	0.24 0.34	Concentration (ug/kg >3000 >3000
07/16/2002	F-9.5 0-3' F-9.5 3-6' F-9.5 6-10'	Vertical delineation Vertical delineation Vertical delineation	0.24 0.34 0.3	Concentration (ug/kg >3000 >3000 >3000
07/16/2002	F-9.5 0-3' F-9.5 3-6' F-9.5 6-10' F-8 0-3'	Vertical delineation Vertical delineation Vertical delineation Vertical delineation	0.24 0.34 0.3 0.26	Concentration (ug/kg >3000 >3000 >3000 >3000
07/16/2002	F-9.5 0-3' F-9.5 3-6' F-9.5 6-10' F-8 0-3' F-8 3-6'	Vertical delineation Vertical delineation Vertical delineation Vertical delineation Vertical delineation	0.24 0.34 0.3 0.26 0.26	Concentration (ug/kg >3000 >3000 >3000 >3000 >3000

Date		Sample Batcl	h Information	
	Standards (ppb)		Absorbance	Estimated Concentration (ug/L)
	0		1.26	1
	100		0.94	37
	600		0.6	1237
07/18/2002	Samples	Description	Absorbance	Estimated Concentration (ug/kg)
	F0.5-6.5	surface	0.93	202
	E0.5-6.5	surface	1.06	53
i	F0.5-4.5	surface	0.09	>3000
	E0.5-4.5	surface	0.11	>3000
	F0.5-4.0	surface	0.92	225
	F0.5-3.0	surface	1.13	25
		Note: Sample calculation	includes a 5-fold dilu	ution
	Standards (ppb)		Absorbance	Estimated Concentration (ug/L)
	0		1.6	1
	100		0.86	105
	600		0.59	579
	Samples	Description	Absorbance	Estimated Concentration (ug/kg)
07/00/0000	G.5-I.5, 4-8	Stockpile	0.87	494
07/23/2002	G.5-I.5, 1-8	Stockpile	0.54	>3000
	E-15	Surface 0-2'	1.11	109
	E-18	Surface 0-2'	0.57	>3000
	F-17.5	Surface 0-2'	0.13	>3000
	E.5-12	Vertical Comp. 0-8'	1.44	14
	H-12.5	Vertical Comp. 3-8'	1.18	70
	10.5-8.5	Vertical Comp. 0-6'	1.36	22
	10.5-11.5	Vertical Comp. 0-7'	1.36	22
		Note: Sample calculation	includes a 5-fold dilu	ution

Date		Sample Bat	ch Information	
	Standards (ppb)		Absorbance	Estimated Concentration (ug/L)
	0		2.72	1
	600		1.45	589
	Samples	Description	Absorbance	Estimated Concentration (ug/kg)
	F8	Verification	1.51	2179
	H4	Verification	1.58	1533
07/26/2002	H8	Verification	1.64	1134
07/26/2002	F4	Verification	1.79	534
	F6	Verification	1.83	437
	F10	Verification	2.2	68
	H6	Verification	0.26	>3000
	H10	Verification	1.41	>3000
	D18	Surface	2.36	30
	E19	Surface	2.73	5
	G1/2-19	Surface	2.39	26
	1	Note: Sample calculation	on includes a 5-fold dilu	ition
	Standards (ppb)		Absorbance	Estimated Concentration (ug/L)
	0		1.23	1
	100		0.82	71
	600		0.59	741
07/31/2002	Samples	Description	Absorbance	Estimated Concentration (ug/kg)
	F8	Verification	1.24	5
	H6	Verification	0.68	1482
	H8	Verification	0.46	>3000
	H10	Verification	0.9	158
	H12	Verification	0.74	804
	H14	Verification	0.17	>3000
		Note: Sample calculation	on includes a 5-fold dilu	ition

Date	Sample Batch Information							
	Standards (ppb)		Absorbance	Estimated Concentration (ug/L)				
	0		1.02	1				
	100		0.74	51				
	600		0.52	973				
08/01/2002								
00/01/2002	Samples	Description	Absorbance	Estimated Concentration (ug/kg)				
	H-4	pre-verification	1.05	4				
	H-6	pre-verification	0.99	9				
	H-14	pre-verification	0.42	>3000				
		Note: Sample calculation	includes a 5-fold dilu	ution				
	Standards (ppb)		Absorbance	Estimated Concentration (ug/L)				
	0		0.91	1				
Ţ	100		0.68	33				
	600		0.41	1340				
08/02/2002								
00/02/2002	Samples	Description	Absorbance	Estimated Concentration (ug/kg)				
	1-2	Vertical Comp. 0-8'	0.89	9				
	1-4	Vertical Comp. 3-8'	0.65	246				
	1-6	Vertical Comp. 0-6'	0.65	246				
		Note: Sample calculation	includes a 5-fold dilu	ution				
	·	<u> </u>						
	Standards (ppb)		Absorbance	Estimated Concentration (ug/L)				
	0		0.96	1				
	100		0.69	28				
	600		0.45	772				
00/40/0000								
08/13/2002	Samples	Description	Absorbance	Estimated Concentration (ug/kg)				
	F15	5x5 grid	0.15	>3000				
	F17	5x5 grid	0.22	>3000				
	H6	base	0.78	41				
		Note: Sample calculation						

Date	Sample Batch Information			
	Standards (ppb)		Absorbance	Estimated Concentration (ug/L)
	0		0.76	1
	100		0.55	41
08/14/2002	600		0.35	1135
	Samples	Description	Absorbance	Estimated Concentration (ug/kg)
	H14	base	0.96	0
	116	vert	0.66	34
•	118	vert	0.77	5
	G18	base 5 X 5 meter	0.87	1
	<u> </u>	Note: Sample calculation	n includes a 5-fold dilu	ution
	Standards (ppb)		Absorbance	Estimated Concentration (ug/L)
	0		0.93	1
08/19/2002	100		0.7	49
	600		0.51	1015
	Samples	Description	Absorbance	Estimated Concentration (ug/kg)
	F16	base	0.45	>3000
	F18	base	0.56	2280
	E16	vert	0.5	>3000
	E18	vert	0.65	540
	Note: Sample calculation includes a 5-fold dilution			

Date	Sample Batch Information				
08/20/2002	Standards (ppb)		Absorbance	Estimated Concentration (ug/L)	
	0		0.64	1	
	100		0.47	37	
	600		0.29	1232	
	Samples	Description	Absorbance	Estimated Concentration (ug/kg)	
00/20/2002	F16	base	0.64	7	
	F18	base	0.51	84	
	F21	vert	0.39	874	
l	F14	vert	0.4	719	
	J16	delineation	0.59	18	
	l16	vert	0.42	486	
	118	vert	0.63	8	
-		Note: Sample calculation	on includes a 5-fold dilu	rtion	
	Standards (ppb)		Absorbance	Estimated Concentration (ug/L)	
	0		0.83	2	
08/23/2002	100		0.7	14	
	600		0.37	2531	
	Samples	Description	Absorbance	Estimated Concentration (ug/kg)	
	H16	base	0.97	1	
	H18	base	0.74	36	
	D.5-16	vert	0.78	19	
	D.5-18	vert	0.72	50	
	D.5-20	vert	0.55	734	
	J.5 - 8	vert	0.83	9	
	S1	delineation	0.93	2	
	S2	delineation	1	11	
		Note: Sample calculation	on includes a 5-fold dilu	ition	

Date		Sample Batc	h Information	Sample Batch Information			
	Standards (ppb)		Absorbance	Estimated Concentration (ug/L)			
	0		0.77	1			
	100		0.62	26			
	600		0.41	1550			
08/28/2002							
	Samples	Description	Absorbance	Estimated Concentration (ug/kg)			
	J12	delineation - 4' bgs	0.58	288			
	J14	delineation - 4' bgs	0.61	161			
		Note: Sample calculation includes a 5-fold dilution					
	Standards (ppb)		Absorbance	Estimated			
	ļ			Concentration (ug/L)			
	0		2.05	1			
	100		1.58	46			
	600		1.17	1067			
08/28/2002	Samples	Description	Absorbance	Estimated Concentration (ug/kg)			
	J11	vert	1.39	989			
	J12	base	1.7	92			
	J14	base	2.14	3			
	J15	vert clay & fill	0.19	>3000			
	K12	vert	1.51	394			
	K14	vert	1.78	50			
		Note: Sample calculation	n includes a 5-fold dilu	ıtion			
	Standards (ppb)		Absorbance	Estimated Concentration (ug/L)			
	0		0.96	1			
08/29/2002	600		0.39	600			
	Samples	Description	Absorbance	Estimated Concentration (ug/kg)			
	F12	vert	0.94	6			
	F14	base	0.83	22			
	G20	base	0.88	12			
	J15	vert fill only	0.09	>3000			
		Note: Sample calculation	n includes a 5-fold dilu	ution			

Date	Sample Batch Information				
09/04/2002	Standards (ppb)		Absorbance	Estimated Concentration (ug/L)	
	0		1.09	1	
	100		0.7	51	
	600		0.39	982	
	Samples	Description	Absorbance	Estimated Concentration (ug/kg)	
	J12	base	1.23	2	
	J14	base	1.2	2	
	J16.5	base	1.2	2	
	K12	vert	1.25	1	
	K14	vert	1.01	13	
	Note: Sample calculation includes a 5-fold dilution				
	Standards (ppb)		Absorbance	Estimated Concentration (ug/L)	
	0		1.14	1	
	100		0.77	60	
	600		0.52	868	
	Samples	Description	Absorbance	Estimated Concentration (ug/kg)	
i	H-6A1*	vert 12-24"	1.4	0	
09/23/2002	H-6A2	vert 24-36"	1.65	0	
	H-6A3	vert 36-60"	1.51	0	
	H-6B1	vert 12-24"	1.21	3	
	H-6B2	vert 24-36"	1.27	1	
	H-6B3	vert 36-60"	1.27	1	
	H-6C1	vert 12-24"	0.96	39	
	H-6C2	vert 24-36"	0.87	103	
	H-6C3	vert 36-60"	1.12	7	
	Notes: Sample calculation includes a 5-fold dilution				
		* - Depth below former excavation base			



Severn Trent Laboratories



STL St. Louis 13715 Rider Trail North Earth City, MO 63045

Tel 314 298 8566 Fax 314 298 8757 www.stl-inc.com

October 14, 2002

STS Consultants, Ltd. 750 Corporate Woods Parkway Vernon Hills, IL 60061 Attn.: Steve Kornder

Subject: Revised Pesticide Results

Dear Mr. Kornder:

Enclosed are the revised pesticide results for several samples. The reporting limit was decreased for aldrin on samples H-10, I-2 and I-6 and for heptachlor epoxide on samples D0.5-18, K-12 and K-14. Each of the chromatograms was examined to determine that these compounds was not detected below the original reporting limit. It was determined that he reporting limit could be decreased in each of these cases.

STL looks forward to continuing our relationship with STS Consultants. If you have any questions or need additional information, please contact me at (314) 298-8566.

Sincerely,

John Powell Project Manager

Client Sample ID: H-10

GC Semivolatiles

Lot-Sample #: F2H010233-003	Work Order #:	E5QGH1AA	Matrix: SOLID
Date Sampled: 07/31/02 09:15	Date Received:	08/01/02	
<pre>Prep Date: 08/02/02</pre>	Analysis Date:	08/08/02	
Prep Batch #: 2214119	Analysis Time:	03:06	
Dilution Factor: 20			
% Moisture: 19	Method:	SW846 8081	A
		REPORTING	
PARAMETER	RESULT	LIMIT	UNITS
Heptachlor	ND	42	ug/kg
Heptachlor epoxide	ND	42	ug/kg
Aldrin	ND	21	ug/kg
Chlordane (technical)	ND	420	ug/kg
alpha-BHC	ND	42	ug/kg
gamma-BHC (Lindane)	ND	42	ug/kg
4,4'-DDT	ND	42	ug/kg
Dieldrin	ND	42	ug/kg

RECOVERY

(57 - 116)

(45 - 147)

LIMITS

PERCENT

RECOVERY

0.0 DIL

0.0 DIL

NOTE(S):

SURROGATE

Tetrachloro-m-xylene

Decachlorobiphenyl

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

Results and reporting limits have been adjusted for dry weight.

Client Sample ID: I-2

GC Semivolatiles

Lot-Sample #:	F2H050168-001	Work Order #: E5XM31AA	Matrix SOLID
Date Sampled:	08/02/02 14:30	Date Received: 08/03/02	

 Date Sampled...:
 08/02/02
 14:30
 Date Received...:
 08/03/02

 Prep Date.....:
 08/08/02
 Analysis Date...:
 08/12/02

 Prep Batch #...:
 2220226
 Analysis Time...:
 15:57

Dilution Factor: 20

% Moisture....: 17 **Method.....:** SW846 8081A

		REPORTING	G
PARAMETER	RESULT	LIMIT	UNITS
Heptachlor	ND	41	ug/kg
Heptachlor epoxide	ND	41	ug/kg
Aldrin	ND	20	ug/kg
Chlordane (technical)	ND	410	ug/kg
alpha-BHC	ND	41	ug/kg
gamma-BHC (Lindane)	ND	41	ug/kg
4,4'-DDT	ND	41	ug/kg
Dieldrin	ND	41	ug/kg
	PERCENT	RECOVERY	
SURROGATE	RECOVERY	LIMITS	
Tetrachloro-m-xylene	0.0 DIL	(57 - 116	5)
Decachlorobiphenyl	0.0 DIL	(45 - 147	7)

NOTE(S):

DIL. The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

Results and reporting limits have been adjusted for dry weight.

Client Sample ID: I-6

GC Semivolatiles

Lot-Sample #	: F2H050168-003	Work Order #	: E5XNA1AA	Matrix:	SOLID
		_			

 Date Sampled...:
 08/02/02
 14:40
 Date Received...:
 08/03/02

 Prep Date.....:
 08/08/02
 Analysis Date...:
 08/10/02

 Prep Batch #...:
 2220226
 Analysis Time...:
 04:14

Dilution Factor: 20

% Moisture....: 18 Method.....: SW846 8081A

		REPORTING	G
PARAMETER	RESULT	LIMIT	UNITS
Heptachlor	49	42	ug/kg
Heptachlor epoxide	ND	42	ug/kg
Aldrin	ND	21	ug/kg
Chlordane (technical)	ND	420	ug/kg
alpha-BHC	ND	42	ug/kg
gamma-BHC (Lindane)	ND	42	ug/kg
4,4'-DDT	ND	42	ug/ kg
Dieldrin	ND	42	ug/kg
	PERCENT	RECOVERY	
SURROGATE	RECOVERY	LIMITS	
Tetrachloro-m-xylene	0.0 DIL	(57 - 116	6)
Decachlorobiphenyl	0.0 DIL	(45 - 14)	7}

NOTE(S):

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes. Results and reporting limits have been adjusted for dry weight.

Client Sample ID: D.5-18

GC Semivolatiles

Lot-Sample #: F2H280172-004	Work Order #: E7A8T1AA	Matrix SOLID
-----------------------------	------------------------	--------------

 Date
 Sampled...:
 08/23/02
 13:50
 Date Received...:
 08/27/02

 Prep
 Date...:
 08/29/02
 Analysis Date...:
 08/30/02

 Prep
 Batch #...:
 2241300
 Analysis Time...:
 14:27

Dilution Factor: 10

*** Moisture....:** 20 **Method.....:** SW846 8081A

		REPORTING	3
PARAMETER	RESULT	LIMIT	UNITS
Aldrin	ND	21	ug/kg
alpha-BHC	ND	21	ug/kg
gamma-BHC (Lindane)	ND	21	ug/kg
Chlordane (technical)	ND	210	ug/kg
4,4'-DDT	ND	21	ug/kg
Dieldrin	ND	21	ug/kg
Heptachlor	31	21	ug/kg
Heptachlor epoxide	ND	43	ug/kg
	PERCENT	RECOVERY	
SURROGATE	RECOVERY	LIMITS	
Decachlorobiphenyl	0.0 DIL,NC	(50 - 151	<u></u>
Tetrachloro-m-xylene	0.0 DIL,NC	(64 - 131	L)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

NC The recovery and/or RPD were not calculated.

Client Sample ID: K-12

GC Semivolatiles

Lot-Sample #:	E2T050100-004	Work Order #	• ETDDY1AA	Matrix	• GOLID
TOC-Pampie #:	FZT020T08-004	work order #.	E / PPA LAA	Mattix	: SOLLID

 Date Sampled...:
 09/04/02
 08:15
 Date Received...:
 09/05/02

 Prep Date.....:
 09/06/02
 Analysis Date...:
 09/10/02

 Prep Batch #...:
 2249219
 Analysis Time...:
 06:13

Dilution Factor: 10

% Moisture....: 13 **Method.....:** SW846 8081A

		REPORTING	
PARAMETER	RESULT	LIMIT	UNITS
Aldrin	ND	20	ug/kg
alpha-BHC	ND	20	ug/kg
gamma-BHC (Lindane)	ND	20	ug/kg
Chlordane (technical)	ND	200	ug/kg
4,4'-DDT	ND	20	ug/kg
Dieldrin	ND	20	ug/kg
Heptachlor	ND	20	ug/kg
Heptachlor epoxide	ND	39	ug/kg
	PERCENT	RECOVERY	
SURROGATE	RECOVERY	LIMITS	_
Decachlorobiphenyl	0.0 DIL,NC	(50 - 151)	_
Tetrachloro-m-xylene	0.0 DIL,NC	(64 - 131)	ı

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

NC The recovery and/or RPD were not calculated.

Client Sample ID: K-14

GC Semivolatiles

Lot-Sample #: F21	I050108-005 Work Ord	er #: E7PP01AA	Matrix:	SOLID
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 Date
 Sampled...:
 09/04/02
 08:20
 Date
 Received...:
 09/05/02

 Prep
 Date....:
 09/06/02
 Analysis
 Date...:
 09/10/02

 Prep
 Batch
 #...:
 2249219
 Analysis
 Time...:
 06:42

Dilution Factor: 10

% Moisture....: 11 **Method.....:** SW846 8081A

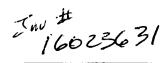
PARAMETER RESULT LIMIT UNITS Aldrin ND 19 ug/kg alpha-BHC ND 19 ug/kg gamma-BHC (Lindane) ND 19 ug/kg Chlordane (technical) ND 190 ug/kg 4,4'-DDT ND 19 ug/kg Dieldrin ND 19 ug/kg Heptachlor ND 19 ug/kg Heptachlor epoxide ND 38 ug/kg PERCENT RECOVERY LIMITS Decachlorobiphenyl 0.0 DIL,NC (50 - 151) Tetrachloro-m-xylene 0.0 DIL,NC (64 - 131)			REPORTING	
alpha-BHC ND 19 ug/kg gamma-BHC (Lindane) ND 19 ug/kg Chlordane (technical) ND 190 ug/kg 4,4'-DDT ND 19 ug/kg Dieldrin ND 19 ug/kg Heptachlor ND 19 ug/kg Heptachlor epoxide ND 38 ug/kg PERCENT RECOVERY SURROGATE RECOVERY LIMITS Decachlorobiphenyl 0.0 DIL,NC (50 - 151)	PARAMETER	RESULT	LIMIT	UNITS
gamma-BHC (Lindane) ND 19 ug/kg Chlordane (technical) ND 190 ug/kg 4,4'-DDT ND 19 ug/kg Dieldrin ND 19 ug/kg Heptachlor ND 19 ug/kg Heptachlor epoxide ND 38 ug/kg PERCENT RECOVERY LIMITS Decachlorobiphenyl 0.0 DIL,NC (50 - 151)	Aldrin	ND	19	ug/kg
Chlordane (technical) ND 190 ug/kg 4,4'-DDT ND 19 ug/kg Dieldrin ND 19 ug/kg Heptachlor ND 19 ug/kg Heptachlor epoxide ND 38 ug/kg PERCENT RECOVERY LIMITS Decachlorobiphenyl 0.0 DIL,NC (50 - 151)	alpha-BHC	ND	19	ug/kg
4,4'-DDT ND 19 ug/kg Dieldrin ND 19 ug/kg Heptachlor ND 19 ug/kg Heptachlor epoxide ND 38 ug/kg PERCENT RECOVERY LIMITS Decachlorobiphenyl 0.0 DIL,NC (50 - 151)	gamma-BHC (Lindane)	ND	19	ug/kg
Dieldrin ND 19 ug/kg Heptachlor ND 19 ug/kg Heptachlor epoxide ND 38 ug/kg PERCENT RECOVERY LIMITS Decachlorobiphenyl 0.0 DIL,NC (50 - 151)	Chlordane (technical)	ND	190	ug/kg
Heptachlor ND 19 ug/kg Heptachlor epoxide ND 38 ug/kg PERCENT RECOVERY SURROGATE RECOVERY LIMITS Decachlorobiphenyl 0.0 DIL, NC (50 - 151)	4,4'-DDT	ND	19	ug/kg
Heptachlor epoxide ND 38 ug/kg PERCENT RECOVERY SURROGATE RECOVERY LIMITS Decachlorobiphenyl 0.0 DIL,NC (50 - 151)	Dieldrin	ND	19	ug/kg
PERCENT RECOVERY SURROGATE RECOVERY LIMITS Decachlorobiphenyl 0.0 DIL,NC (50 - 151)	Heptachlor	ND	19	ug/kg
SURROGATE RECOVERY LIMITS Decachlorobiphenyl 0.0 DIL,NC (50 - 151)	Heptachlor epoxide	ND	38	ug/kg
Decachlorobiphenyl 0.0 DIL,NC (50 - 151)		PERCENT	RECOVERY	
· · · · · · · · · · · · · · · · · · ·	SURROGATE	RECOVERY	LIMITS	_
Tetrachloro-m-xylene 0.0 DIL,NC (64 - 131)	Decachlorobiphenyl	0.0 DIL,NC	(50 - 151)	1
-	Tetrachloro-m-xylene	0.0 DIL,NC	(64 - 131))

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

NC The recovery and/or RPD were not calculated.





STL St. Louis 13715 Rider Trail North Earth City, MO 63045

Tel 314 298 8566 Fax 314 298 8757 www.stl-inc.com

ANALYTICAL REPORT

Waste Characterization

Lot #: F2J040269

Rich Berggreen

STS Acquisitions Co. 750 Corporate Woods Parkway Vernon Hills, IL 60061

SEVERN TRENT LABORATORIES, INC.

John D. Powell Project Manager

October 11, 2002

Case Narrative LOT NUMBER: F2J040269

This report contains the analytical results for the sample received under chain of custody by STL St. Louis on October 4, 2002. This sample is associated with your Waste Characterization project.

All applicable quality control procedures met method-specified acceptance criteria.

This report is incomplete without the case narrative. All results are based upon sample as received, wet weight, unless noted otherwise.

Observations/Nonconformances

Reference the chain of custody and condition upon receipt report for any variations on receipt conditions and temperature of samples on receipt.

There were no anomalies associated with this sample.

METHODS SUMMARY

F2J040269

PARAMETER	ANALYTICAL METHOD	PREPARATION METHOD
Organochlorine Pesticides	SW846 8081A	SW846 3550
Percent Moisture	MCAWW 160.3 MOD	MCAWW 160.3 MOD

References:

MCAWW "Methods for Chemical Analysis of Water and Wastes",

EPA-600/4-79-020, March 1983 and subsequent revisions.

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical

Methods*, Third Edition, November 1986 and its updates.

LOT# F2J040269

3

SAMPLE SUMMARY

F2J040269

WO # SAMPLE# CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
E9FJW 001 H6-3	10/03/02	10:20

note (s) :

- The analytical results of the complex listed above are presented on the following pages
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results recent as "RID" were not detected at or above the stated limit.
- This report must not be reproduced, except in fell, without the written approval of the laboratory
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, parosity pressure, reactivity, roden potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

Client Sample ID: H6-3

GC Semivolatiles

Lot-Sample #: F2J040269-001	Work Order #: E9FJW1AA	Matrix SOLID
-----------------------------	------------------------	--------------

 Date
 Sampled...:
 10/03/02
 10:20
 Date
 Received...:
 10/04/02

 Prep
 Date...:
 10/07/02
 Analysis
 Date...:
 10/10/02

 Prep
 Batch #...:
 2280295
 Analysis
 Time...:
 22:05

Dilution Factor: 1

* Moisture....: 19 Method....: SW846 8081A

racemout	50040 00	UIA .
	REPORTING	G
RESULT	LIMIT	UNITS
ND	2.1	ug/kg
ND	2.1	ug/kg
ND	2.1	ug/kg
ND	21	ug/kg
ND	2.1	ug/kg
ND	2.1	ug/kg
7.5	2.1	ug/kg
ND	8.3	ug/kg
PERCENT	RECOVERY	
RECOVERY	LIMITS	
121	(52 - 130	0)
96	(60 - 119	9)
	RESULT ND ND ND ND ND ND ND T.5 ND PERCENT RECOVERY 121	RESULT LIMIT ND 2.1 T.5 2.1 ND 8.3 PERCENT RECOVERY LIMITS 121 (52 - 13

NOTE (S):

Results and reporting limits have been adjusted for dry weight.

5

Client Sample ID: H6-3

General Chemistry

Lot-Sample #...: F2J040269-001 Work Order #...: E9FJW Matrix.....: SOLID

Date Sampled...: 10/03/02 10:20 Date Received..: 10/04/02

* Moisture....: 19

 PARAMETER
 RESULT
 RL
 UNITS
 METHOD
 ANALYSIS DATE
 BATCH #

 Percent Moisture
 18.8
 0.10
 %
 MCAMW 160.3 NOD
 10/08/02
 2281523

Dilution Factor: 1 Analysis Time..: 17:15

LOT# P2J040269

METHOD BLANK REPORT

GC Semivolatiles

Client Lot #...: F2J040269 Work Order #...: E9HQF1AA Matrix.....: SOLID

MB Lot-Sample #: D2J070000-295

Prep Date....: 10/07/02 Analysis Time..: 22:34

Analysis Date..: 10/10/02 Prep Batch #...: 2280295

Dilution Factor: 1

RI	EPC)RT	ING

PARAMETER	RESULT	LIMIT	UNITS	METHOD
Aldrin	ND	1.7	ug/kg	SW846 8081A
alpha-BHC	ND	1.7	ug/kg	SW846 8081A
gamma-BHC (Lindane)	ND	1.7	ug/kg	SW846 8081A
Chlordane (technical)	ND	17	ug/kg	SW846 8081A
4,4'-DDT	ND	1.7	ug/kg	SW846 8081A
Dieldrin	0.52 J	1.7	ug/kg	SW846 8081A
Heptachlor	ND	1.7	ug/kg	SW846 8081A
Heptachlor epoxide	ND	6.7	ug/kg	SW846 8081A
	PERCENT	RECOVERY		
SURROGATE	RECOVERY	LIMITS	_	
Decachlorobiphenyl	96	(52 - 130)	
Tetrachloro-m-xylene	99	(60 - 119)	

NOTE (S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

J Estimated result. Result is less than RL.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC Semivolatiles

Client Lot #...: F2J040269 Work Order #...: E9HQF1AC Matrix.....: SOLID

LCS Lot-Sample#: D2J070000-295

 Prep Date....: 10/07/02
 Analysis Date..: 10/10/02

 Prep Batch #...: 2280295
 Analysis Time..: 21:36

Dilution Factor: 1

	PERCENT	RECOVERY	
PARAMETER	RECOVERY	LIMITS	METHOD
Aldrin	85	(65 - 109)	SW846 8081A
gauna-BBC (Lindane)	86	(64 - 110)	SW846 8081A
Endrin	96	(68 - 122)	SW846 8081A
4,4'-DDT	91	(63 - 127)	SW846 8081A
Dieldrin	90	(68 - 111)	SW846 8081A
Heptachlor	103	(67 - 118)	SW846 8081A
		PERCENT	RECOVERY
SURROGATE		RECOVERY	LIMITS
Decachlorobiphenyl		96	(67 - 122)
Tetrachloro-m-xylene		95	(66 - 116)

HOTE (S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

Chain of Custody Record





Severn Trent Laboratories, Inc.

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STL Denver Sample Receiving Checklist

Lo	t#:	Fo	2 J040269 Date/Time Received: 10/5/02 0 900	
Co	mnai	nv N	larne & Sampling Site: 375	
~		oler i	1	
Ter	DDE73	hores	(°C): <u>0.9</u>	·
	-			
		•	lete This Section: Yes No rine check required:	
Tim	e Zoi	se:		
			CDT/CST • MDT/MST • PDT/PST • OTHER	
	-		& Labeling Check Points:	
N/A	Ye	_		Initials
0	192	0	1. Cooler seals intact. (N/A if hand delivered)	- 1000
	Ø	0	2. Chain of custody present.	
	۵	ST.		1
	a	Ø	4. Multiphase samples present? If yes, comment below.	
			PHOTOGRAPH BROKEN BOTTLESMULTIPHASE SAMPLES	Alat.
	а	0	5. Proper container & preservatives used (ref. Attachment D of SOP# DEN-QA-0003)	NU
۵	a	9	6. pH of all samples checked and meet requirements, note exceptions.	
	۵	\boldsymbol{z}	7. Chain of custody includes "received by" and "relinquished" by signatures,	
			dates, and times.	
	a	a	8. Receipt date(s) > 48 hours past the collection date(s)? If yes, notify PA/PM.	
	J	0	9. Chain of custody agrees with bottle count, comment if no.	
	Q		10. Chain of custody agrees with labels, comment if no.	-
0	a	0	11. VOA samples filled completely, comment if no.	-
3	a		12. VOA vials preserved, check label. Preservative DHCl D4±2°C DSodium Thiosulfate	
	a	0	13. Did samples require preservation with sodium thiosulfate?	
0	Э	0	14. If yes to #12, did the samples contain residual chlorine?	
۵	a	0	15. Sediment present in dissolved/filtered bottles.	
	Э	0	16. Are analyses with short holding times requested?	
		a	17. Was a quick Turn Around (TAT) requested?	
۵	ū		18. Is extra sample volume provided for MS, MSD or matrix duplicates?	· ——
			DOUBLECHECK METALS, SAMPLE LABELS & SUBCONTRACT	
۵	a	a	19. Subcontract COC signed and sent with samples to bottle prep?	
	Q	۵	20. Were sample labels double-checked by a second person?	
Ø	a	۵	21. Were sample bottles and COC double checked for dissolved/filtered metals by a second person?	
a	Q	۵	22. If applicable, were AFCEE Metals placed in the walkin refrigerator?	W
	cume cort (ry problems or discrepancies and the actions taken to resolve them on a Condition Upon Receip	t Anomaly

VQAVForms\Sample Receiving\SR Checklist

2/28/02 Revision

7.



STL St. Louis 13715 Rider Trail North Earth City, MO 63045

Tel 314 298 8566 Fax 314 298 8757 www.stl-inc.com

ANALYTICAL REPORT

Waste Characterization

Lot #: F2I240217

Rich Berggreen

STS Acquisitions Co. 750 Corporate Woods Parkway Vernon Hills, IL 60061

SEVERN TRENT LABORATORIES, INC.

John D. Powell Project Manager

September 27, 2002

Case Narrative LOT NUMBER: F2I240217

This report contains the analytical results for the nine samples received under chain of custody by STL St. Louis on September 24, 2002. These samples are associated with your Waste Characterization project.

All applicable quality control procedures met method-specified acceptance criteria except as noted below

This report is incomplete without the case narrative. All results are based upon sample as received, wet weight, unless noted otherwise.

Observations/Nonconformances

Reference the chain of custody and condition upon receipt report for any variations on receipt conditions and temperature of samples on receipt.

Affected Samples: F2I240217 (7): H-6C1

Affected Methods: 8081A

Case Narrative:

Surrogate recovery for TCMX failed control limits 60-119% at 170%. The raw data show clear evidence of matrix interference. The recovery for the other surrogate, DCB, is within control limits. All other calibration and QC criteria were met.

METHODS SUMMARY

F2I240217

PARAMETER	ANALYTICAL METHOD	PREPARATION METHOD
Organochlorine Pesticides Percent Moisture	SW846 8081A MCAWW 160.3 MOD	SW846 3550 MCAWW 160.3 MOD

References:

MCAWW "Methods for Chemical Analysis of Water and Wastes", EPA-600/4-79-020, March 1983 and subsequent revisions.

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

LOT# F2I240217 3

SAMPLE SUMMARY

F2I240217

₩O.#.	SAMPLE	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
E8Q12	001	H-6A1	09/23/02	11:20
E8Q17	002	H-6A2	09/23/02	11:30
E8Q2G	004	H-6B1	09/23/02	10:00
B8Q2N	005	H-6B2	09/23/02	10:05
E8Q23	007	H-6C1	09/23/02	10:35
E8Q27	800	H-6C2	09/23/02	10:40

⁻ The analytical results of the samples listed above are presented on the following pages.

⁻ All calculations are performed before rounding to avoid round-off errors in calculated results.

⁻ Romins noted as "ND" were not detected at or above the stated firms.

⁻ This report must not be reproduced, except in full, without the written approval of the laboratory.

⁻ Results for the following parameters are never reported on a dry weight basic color, corrosivity, density, flashpoint, ignitability, layers, edor, paste filter test. pff., poroncy pressure, reactivity, roder potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

Client Sample ID: H-6Al

GC Semivolatiles

Lot-Sample #: F2I240217	-001 Work Order #: E8Q121AA	Matrix SOLID
-------------------------	-----------------------------	--------------

 Date Sampled...:
 09/23/02
 11:20
 Date Received...:
 09/24/02

 Prep Date.....:
 09/25/02
 Analysis Date...:
 09/26/02

 Prep Batch #...:
 2268406
 Analysis Time...:
 10:01

Dilution Factor: 1

*** Moisture....:** 16 Method.....: SW846 8081A

		REPORTIN	īG			
PARAMETER	RESULT	RESULT LIMIT				
Aldrin	ND	2.0	ug/kg			
alpha-BHC	ND	2.0	ug/kg			
gamma-BHC (Lindane)	ND	2.0	ug/kg			
Chlordane (technical)	N D	20	ug/kg			
4,4'-DDT	ND	2.0	ug/kg			
Dieldrin	ND	2.0	ug/kg			
Heptachlor	ND	2.0	ug/kg			
Heptachlor epoxide	ND	8.0	ug/kg			
	PERCENT	RECOVERY	t			
SURROGATE	RECOVERY	LIMITS				
Decachlorobiphenyl	89	(52 - 130)				
Tetrachloro-m-xylene	82	(60 - 11	L 9)			

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

LOT# F2I240217 5

Client Sample ID: H-6A1

General Chemistry

Lot-Sample #...: F2I240217-00: Work Order #...: E8Q12 Matrix.....: SOLID

Date Sampled...: 09/23/02 11:20 Date Received..: 09/24/02

* Moisture....: 16

PARAMETER RESULT RL UNITS METHOD ANALYSIS DATE BATCH #
Percent Moisture 16.2 0.10 % MCANN 160.3 NOD 09/26/02 2269433

Dilution Factor: 1 Analysis Time..: 14:00

Client Sample ID: H-6A2

GC Semivolatiles

Lot-Sample #: F:	21240217-002	Work Order	#:	E8Q171AA	Matrix:	SOLID

 Date Sampled...:
 09/23/02
 11:30
 Date Received...:
 09/24/02

 Prep Date....:
 09/25/02
 Analysis Date...:
 09/26/02

 Prep Batch #...:
 2268406
 Analysis Time...:
 10:41

Dilution Factor: 1

* Moisture....: 16 Method.....: SW846 8081A

		REPORTIN	īG
PARAMETER	RESULT	LIMIT	UNITS
Aldrin	ND	2.0	ug/kg
alpha-BHC	ND	2.0	ug/kg
gamma-BHC (Lindane)	ND	2.0	ug/kg
Chlordane (technical)	ND	20	ug/kg
4,4'-DDT	ND	2.0	ug/kg
Dieldrin	ND	2.0	ug/kg
Heptachlor	ND	2.0	ug/kg
Heptachlor epoxide	ND	8.0	ug/kg
	PERCENT	RECOVERY	?
SURROGATE	RECOVERY	LIMITS	
Decachlorobiphenyl	83	(52 - 13	10)
Tetrachloro-m-xylene	76	(60 - 11	.9)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

LOT# F2I240217

Client Sample ID: H-6A2

General Chemistry

Lot-Sample #...: P21240217-002 Work Order #...: E8Q17 Matrix.....: SOLID

Date Sampled...: 09/23/02 11:30 Date Received..: 09/24/02

*** Moisture....:** 16

 PARAMETER
 RESULT
 RL
 UNITS
 METHOD
 ANALYSIS DATE
 BATCH #

 Percent Moisture
 16.1
 0.10
 %
 MCANW 160.3 MOD
 09/26/02
 2269433

Dilution Factor: 1 Analysis Time..: 14:00

Client Sample ID: H-6B1

GC Semivolatiles

Lot-Sample #:	F2I240217-004	Work Order #: E8Q2G1AA	Matrix SOLID

 Date Sampled...:
 09/23/02 10:00 Date Received..:
 09/24/02

 Prep Date....:
 09/25/02 Analysis Date..:
 09/26/02

 Prep Batch #...:
 2268406 Analysis Time..:
 10:55

Dilution Factor: 1 % Moisture....: 13

Method.....: SW846 8081A

		REPORTIN	īG	
PARAMETER	RESULT	LIMIT	UNITS	
Aldrin	ND	2.0	ug/kg	
alpha-BHC	ND	2.0	ug/kg	
gamma-BHC (Lindane)	ND	2.0	ug/kg	
Chlordane (technical)	ND	20	ug/kg	
4,4'-DDT	ND	2.0	ug/kg	
Dieldrin	ND	2.0	ug/kg	
Heptachlor	ND	2.0	ug/kg	
Heptachlor epoxide	ND	7.7	ug/kg	
	PERCENT	RECOVERY	r	
SURROGATE	RECOVERY	LIMITS		
Decachlorobiphenyl	83	(52 - 13	30)	
Tetrachloro-m-xylene	76	(60 - 119)		

NOTE (S):

Results and reporting limits have been adjusted for dry weight.

LOT# F2I240217

g

Client Sample ID: H-6B1

General Chemistry

Lot-Sample #...: F2I240217-004 Work Order #...: R8Q2G Matrix.....: SOLID

Date Sampled...: 09/23/02 10:00 Date Received..: 09/24/02

* Moisture....: 13

					PREPARATION-	PREP
PARAMETER	RESULT	RL	UNITS	METHOD	ANALYSIS DATE	BATCH #
Percent Moisture	13.0	0.10	*	MCANW 160.3 NOD	09/26/02	2269433

Dilution Pactor: 1 Analysis Time..: 14:00

LOT# F2I240217

Client Sample ID: H-6B2

GC Semivolatiles

Lot-Sample #: F2I240217	005 Work Order #: E8Q2N1AA	Matrix SOLID
-------------------------	----------------------------	--------------

 Date Sampled...:
 09/23/02 10:05
 Date Received...
 09/24/02

 Prep Date.....:
 09/25/02
 Analysis Date...
 09/26/02

 Prep Batch #...:
 2268406
 Analysis Time...
 11:08

Dilution Factor: 1 % Moisture....: 13

Method.....: SW846 8081A

		REPORTIN	i G
PARAMETER	RESULT	LIMIT	UNITS
Aldrin	ND	1.9	ug/kg
alpha-BHC	ND	1.9	ug/kg
gamma-BHC (Lindane)	ND	1.9	ug/kg
Chlordane (technical)	ND	19	ug/kg
4,4'-DDT	ND	1.9	ug/kg
Dieldrin	ND	1.9	ug/kg
Heptachlor	ND	1.9	ug/kg
Heptachlor epoxide	ND	7.7	ug/kg
	PERCENT	RECOVERY	<i>t</i>
SURROGATE	RECOVERY	LIMITS	
Decachlorobiphenyl	84	(52 - 13	30)
Tetrachloro-m-xylene	74	(60 - 11	L9)

NOTE (S):

Results and reporting limits have been adjusted for dry weight.

LOT# F2I240217

Client Sample ID: R-6B2

General Chemistry

Lot-Sample #...: F2I240217-005 Work Order #...: E8Q2N Matrix.....: SOLID

Date Sampled...: 09/23/02 10:05 Date Received..: 09/24/02

*** Moisture....:** 13

 PARAMETER
 RESULT
 RL
 UNITS
 METHOD
 ANALYSIS DATE
 BATCH #

 Percent Moisture
 12.8
 0.10
 %
 MCANW 160.3 MOD
 09/26/02
 2269433

Dilution Factor: 1 Analysis Time..: 14:00

LOT# F2I240217 1

Client Sample ID: H-6Cl

GC Semivolatiles

Lot-Sample #...: F2I240217-007 Work Order #...: E8Q231AA Matrix.....: SOLID

 Date Sampled...:
 09/23/02
 10:35
 Date Received...:
 09/24/02

 Prep Date....:
 09/25/02
 Analysis Date...:
 09/26/02

 Prep Batch #...:
 2268406
 Analysis Time...:
 11:21

Dilution Factor: 1

*** Moisture....:** 12 **Method.....:** SW846 8081A

		IG .	
PARAMETER	RESULT	LIMIT	UNITS
Aldrin	ND	1.9	ug/kg
alpha-BHC	ND	1.9	ug/kg
gamma-BHC (Lindane)	ND	1.9	ug/kg
Chlordane (technical)	ND	19	ug/kg
1,4'-DDT	ND	1.9	ug/kg
Dieldrin	ND	1.9	ug/kg
Heptachlor	ND	1.9	ug/kg
Heptachlor epoxide	ND	7.6	ug/kg
	PERCENT	RECOVERY	•
URROGATE	RECOVERY	LIMITS	
ecachlorobiphenyl	83	(52 - 13	0)
etrachloro-m-xylene	170 *	(60 - 11	.9)

MOTE(S):

Results and reporting limits have been adjusted for dry weight.

LOT# F2I240217

^{*} Surrogate recovery is outside stated control limits.

Client Sample ID: H-6Cl

General Chemistry

Lot-Sample #...: F2I240217-007 Work Order #...: E8Q23 Matrix....: SOLID

Date Sampled...: 09/23/02 10:35 Date Received..: 09/24/02

* Moisture....: 12

 PARAMETER
 RESULT
 RL
 UNITS
 METHOD
 ANALYSIS DATE
 BATCH #

 Percent Moisture
 11.9
 0.10
 %
 MCANN 160.3 MOD
 09/26/02
 2269433

Dilution Pactor: 1 Analysis Time..: 14:00

LOT# F2I240217

Client Sample ID: H-6C2

GC Semivolatiles

Lot-Sample #: F2I240217-008	Work Order #: E8Q271AA	Matrix: SOLID
-----------------------------	------------------------	---------------

 Date Sampled...:
 09/23/02
 10:40
 Date Received...:
 09/24/02

 Prep Date....:
 09/25/02
 Analysis Date...:
 09/26/02

 Prep Batch #...:
 2268406
 Analysis Time...:
 11:35

Dilution Factor: 1

* Moisture....: 14 Method.....: SW846 8081A

		REPORTIN	iG
PARAMETER	RESULT	LIMIT	UNITS
Aldrin	ND	2.0	ug/kg
alpha-BHC	ND	2.0	ug/kg
gamma-BHC (Lindane)	ND	2.0	ug/kg
Chlordane (technical)	ND	20	ug/kg
4,4'-DDT	ND	2.0	ug/kg
Dieldrin	ND	2.0	ug/kg
Heptachlor	ND	2.0	ug/kg
Heptachlor epoxide	ND	7.8	ug/kg
	PERCENT	RECOVERY	•
SURROGATE	RECOVERY	LIMITS	
Decachlorobiphenyl	80	(52 - 13	30)
Tetrachloro-m-xylene	95	(60 - 11	L9)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

LOT# F2I240217 15

Client Sample ID: H-6C2

General Chemistry

Lot-Sample #...: F2I240217-008 Work Order #...: E8Q27 Matrix.....: SOLID

Date Sampled...: 09/23/02 10:40 Date Received..: 09/24/02

* Moisture....: 14

PARAMETER RESULT RL UNITS METHOD ANALYSIS DATE BATCH #
Percent Moisture 13.8 0.10 % MCANW 160.3 NOD 09/26/02 2269433

Dilution Factor: 1 Analysis Time..: 14:00

LOT# F2I240217

METHOD BLANK REPORT

GC Semivolatiles

Client Lot #...: F2I240217

Work Order #...: E8T611AA

Matrix..... SOLID

MB Lot-Sample #: D2I250000-406

Prep Date....: 09/25/02 Prep Batch #...: 2268406 Analysis Time..: 11:48

Analysis Date..: 09/26/02

Dilution Factor: 1

REPORTING

		1010112		
PARAMETER	RESULT	LIMIT	UNITS	METHOD
Aldrin	ND	1.7	ug/kg	SW846 8081A
alpha-BHC	ND	1.7	ug/kg	SW846 8081A
gamma-BHC (Lindane)	ND	1.7	ug/kg	SW846 8081A
Chlordane (technical)	ND	17	ug/kg	SW846 8081A
4,4'-DDT	ND	1.7	ug/kg	SW846 8081A
Dieldrin	ND	1.7	ug/kg	SW846 8081A
Heptachlor	ND	1.7	ug/kg	SW846 8081A
Heptachlor epoxide	ND	6.7	ug/kg	SW846 8081A
	PERCENT	RECOVER'	Y	
SURROGATE	RECOVERY	LIMITS		
Decachlorobiphenyl	93	(52 - 1	30)	
Tetrachloro-m-xylene	86	(60 - 1	19)	
-				

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

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LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC Semivolatiles

Client Lot #...: F2I240217 Work Order #...: B8T611AC Matrix.....: SOLID

LCS Lot-Sample#: D2I250000-406

 Prep Date....:
 09/25/02
 Analysis Date..:
 09/26/02

 Prep Batch #...:
 2268406
 Analysis Time..:
 09:48

Dilution Factor: 1

	PERCENT	RECOVERY	
PARAMETER	RECOVERY	LIMITS	METHOD
Aldrin	91	(65 - 109)	S#846 8081A
gamma-BBC (Lindane)	92	(64 - 110)	SW846 8081A
Endrin	100	(68 - 122)	SW846 8081A
4,4'-DDT	105	(63 - 127)	SW846 8081A
Dieldrin	91	(68 - 111)	SW846 8081A
Beptachlor	9 5	(67 - 118)	SW846 8081A
		PERCENT	RECOVERY
SURROGATE		RECOVERY	LIMITS
Decachlorobiphenyl		97	(67 - 122)
Tetrachloro-m-xylene		93	(66 - 116)

NOTE (S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC Semivolatiles

Client Lot #...: F2I240217 Work Order #...: E8Q121AD-MS Matrix.....: SOLID

MS Lot-Sample #: F2I240217-001 E8Q121AE-MSD

 Date Sampled...:
 09/23/02
 11:20
 Date Received..:
 09/24/02

 Prep Date....:
 09/25/02
 Analysis Date..:
 09/26/02

 Prep Batch #...:
 2268406
 Analysis Time..:
 10:15

 Dilution Factor:
 1
 * Moisture....:
 16

	PERCENT	RECOVERY		RPD	
PARAMETER	RECOVERY	LIMITS	RPD	LIMITS	METHOD
Aldrin	81	(49 - 123)			SW846 8081A
	81	(49 - 123)	0.57	(0-30)	SW846 8081A
gamma-BHC (Lindane)	78	(47 - 126)			SW846 8081A
	81	(47 - 126)	2.7	(0-30)	SW846 8081A
Endrin	95	(56 - 128)			SW846 8081A
	96	(56 - 128)	0.86	(0-30)	SW846 8081A
4,4'-DDT	92	(47 - 136)			SW846 8081A
	94	(47 - 136)	1.4	(0-30)	SW846 8081A
Dieldrin	82	(51 - 123)			SW846 8081A
	83	(51 - 123)	0.76	(0-30)	SW846 8081A
Heptachlor	82	(51 - 125)			SW846 8081A
	85	(51 - 125)	3.4	(0-30)	SW846 8081A
		PERCENT		RECOVERY	
SURROGATE	_	RECOVERY		LIMITS	_
Decachlorobiphenyl		84		(52 - 130)
		84		(52 - 130)
Tetrachloro-m-xylene		84		(60 - 119)
		85		(60 - 119)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

Results and reporting limits have been adjusted for dry weight.

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SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: P2I240217 Work Order #...: E8Q2G-SMP Matrix.....: SOLID

E8Q2G-DUP

Date Sampled...: 09/23/02 10:00 Date Received..: 09/24/02

* Moisture....: 13

	DUPLICATE			RPD		PREPARATION-	PREP
PARAM RESULT	RESULT	UNITS	RPD	LIMIT	METHOD	ANALYSIS DATE	BATCH #
Percent Moisture					SD Lot-Sample #:	F2I240217-004	
13.0	14.0	*	6.7	(0-20)	MCANW 160.3 MOD	09/26/02	2269433

Dilution Factor: 1 Analysis Time..: 14:00

Chain & Custody Record



Severn Trent Laboratories, Inc.

STL-4124 (0901)																								 		<u></u>
Client		Project :	Manag	ger .}			سما	/	n		1	_					Date G	· /			2		Cha	in of Custody Nu	550	Louis
<u> </u>		Telepho		TEL.	1 <u>e</u>	- F	<u> </u>	2 M	<u> </u>	α	را م						Lab N			/Ľ	ے ر	=-		<u> </u>	<u> </u>	<u>~~</u> 5
150 Corporate Wood	5 Parkun	, diapric	8-4		-27	79	- 5	24	14	8						- {							Pag	ge	of _	
City State Zip	Code (Site Co.	ntact			L	ab C	ontac	t							naly one :	sis (a	Attad 9 is r	ch lis 100d	t if led)						
Project Name and Location (State)	<i></i>	Carrier/	Wayb	ill Num	ber							$\neg \uparrow$		J'al	֓֞֟֝֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓	ğ						j				
341 Fast Chio	57	_L			•								4	13			1					Į		Special In	nstructions	: /
Contract/Purchase Order/Quota No.				Mat	rix			Co Pre	ntain eservi	ers e ative	& 95		Gmo	ctical		2								Conditions	s of Receip	ot .
Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	₹	Aqueous Sed.	gt S		Unpres.	E SON		NaOH	ZnAc) NeOH		17	50		5								Petricio	Des	
H-6A1	9/23/02/	11:20 0:00			X		*							×										Aldri	1	
H-6AZ		10:05			Ш				_					11				L	Ш				.	a pha i	BHC	
H-6A3		10-25		\perp	111				_					$\perp \downarrow$	\perp	+1	10	W.	De.	nd	4	res	ulk	Chlora	lane	tech
H-6B1		10.00	Ш	_ _	\coprod		\coprod									_		L						dielo	drin	
H-6 B2		10.05					Ш				_													herita	achlo	v
H-6B3		IA:25			11											+	HA	$\frac{1}{2}$	V.	en.	Più	8	250	ts hertac	hlor e	pord
H-601		10:35						$oxed{\Box}$											T					Linda	ine	
H-6 CZ		10:48			$\perp I$		Ш									\perp			L					4,41	2DT	• ———
H-6 C3	V	10:54			4		V							_\2	<u> </u>	1	lol	K	ne	ud	isi	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	Sil	tts		
Temp. Rlank	9/23/02			X									X				€	1	12	1	20	77	10	group		
		<u>-</u>															T									
Possible-Hazard Identification	}		S	ample i	Disposi	al		 -					<u> </u>			L	l	۰	ســـــــــــــــــــــــــــــــــــــ	<u> </u>						
Non-Hazard Flammable Skin Irritant	Poison B] Unknow	, [C	Retu	m To C	Client			posal				Archiv	e For			_ Mo	nths				mon		d if samples are i	etainea	
Turn Around Time Required							1	OC R	equire	men	nts (Ŝ¢	pecity)													
24 Hours 248 Hours 7 Days 14 D	ays 🔲 21 Days		her									<u> </u>														
1. Relinquished by		Date 9	123/1	27	Time	300		1. Red	celved	d By	X) 71.	^				/						ď	9/25/2	Time	2
2. Relinquished By		Date	7.	اک ۔ ا	Time	7 '	7	2. Re	celve	d By	1	<u> </u>											- ,	Dale 1	Time	
3. Relinquished By		Date		ل 	Time		-	3. Re	ceive	d By				-		.							<u></u>	Date	Time	<u>·</u>
Comments			·	1																					<u></u>	
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STL Denver Sample Receiving Checklist

Lot #: F21240217 Date/Time Received: 9/28/02 0900	
Company Name & Sampling Site: 575	
*Cooler #(s):	 ,
Temperatures (°C): 0.4	
PM to Complete This Section: Yes No Residual chlorine check required: Time Zone:	
• EDT/EST • CDT/CST • MDT/MST • PDT/PST • OTHER	
Unpacking & Labeling Check Points:	7
N/A Yes No D 3 D 1. Cooler seals instact. (N/A if hand delivered)	Initials A
Q Q 2. Chain of custody present.	4
*	. —
0 8 3. Bottles broken and/or are leaking, comment if yes. 1 11d, part of lideracked but not broken, did not loosed	, —
PHOTOGRAPH BROKEN BOTTLES/MULTIPHASE SAMPLES	
5. Proper container & preservatives used (ref. Attachment D of SOP# DEN-QA-0003)	
D O 6. pH of all samples checked and meet requirements, note exceptions.	
Q 7. Chain of custody includes "received by" and "relinquished" by signatures, dates, and times.	
3. Cl 8. Receipt date(s) > 48 hours past the collection date(s)? If yes, notify PA/PM.	
9. Chain of custody agrees with bottle count, comment if no. No count on Coc	
3. U 10. Chain of custody agrees with labels, comment if no.	
75- 3 3 11. VOA samples filled completely, comment if no.	
12. VOA vials preserved, check label. Preservative QHCl Q4±2°C QSodium Thiosulfate	
☐ 13. Did samples require preservation with sodium thiosulfate?	
SQ O 14. If yes to #12, did the samples contain residual chlorine?	
D- U 15. Sediment present in dissolved/filtered bottles.	
D 8. 16. Are analyses with short holding times requested?	
Q 0 17. Was a quick Tem Around (TAT) requested?	·
18. Is extra sample volume provided for MS, MSD or matrix duplicates?	
DOUBLECHECK METALS, SAMPLE LABELS & SUBCONTRACT	
19. Subcontract COC signed and sent with samples to bottle prep?	-DZ
20. Were sample labels double-checked by a second person?	
Q Q 21. Were sample bottles and COC double checked for dissolved/filtered metals by a second person?	45
□ □ □ 22. If applicable, were AFCEE Metals placed in the walkin refrigerator?	
Document any problems or discrepancies and the actions taken to resolve them on a Condition Upon Rece Report (CUR).	pt Anomaly

VQAVFormetSample ReceivingtSR Checklist

2/28/02 Revision

4

STL Denver Condition Upon Receipt Anomaly Report (CUR)

Client:		Date/Time: 9/25/02
Client: <u>STS - St. Louis</u> Lot No: <u>F21240217</u>		Initiated by:
Affected Samples		
Client ID	Lat	b ID Analyses Requested
H-6A2		
CONDITION/ANOMALY/VARIANCE (CHE	CK ALI	I. THAT APPLY).
☐COOLERS ☐Not Received, No Chain of Custody (COC) ☐Not Received but COC(s) Available		□CUSTODY SEALS (COOLER(S)/CONTAINER(S) □None □ Not Intact
│ □Leaking □Other:		□Other: □CHAIN OF CUSTODY (COCs)
☐ TEMPERATURE (greater than 6°C) ☐Cooler Temp		☐Not relinquished by Client; No date/time Relinq.☐ Incomplete Information
CTemperature Blank MCONTAINERS		□ CONTAINER LABELS
DLeaking 1x11dcracked, did not DBroken break. Lid 15 still the DExtra DWithout Labels attached.	t shtly	☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
	mm	☐ Markings/Info smeared or illegible ☐Torn ☐Other:
☐ SAMPLES ☐Samples NOT RECEIVED but listed on COC —☐Samples received but NOT LISTED on COC		☐will be noted on COC ☐ Client to send samples with new COC
□Logged based on Label Information □Logged based on info from other samples on COC	2	☐ Mislabeled as to tests, preservatives, etc. ☐ Holding time expired
☐ Logged according to Work Plan☐Logged on HOLD UNTIL FURTHER NOTICE		☐ Improper container used ☐Not preserved / Improper preservative used
Other:		☐ Improper pH ☐ Lab to preserve sample☐ Insufficient quantities for analysis
Comments:		
Corrective Action:		
Client Informed: verbally on: Sample(s) processed "as is".	By: _	: In writing on:By: If released, notify:
Sample(s) on hold until:		If released, notify:
Sample Control Supervisor Review:	ur	
Project Management Review: SIGNED ORIGINAL MU	JST BE	Date:

N:\QA\Forms\Sample Receiving\ Condition Upon Receipt Report

1/4/99 version



\$TI. St. Louis 13715 Rider Trail North Earth City, MO 63045

Tel 314 298 8566 Fax 314 298 8757 www.stl-inc.com

ANALYTICAL REPORT

Waste Characterization

Lot #: F2I050108

Rich Berggreen

STS Acquisitions Co. 750 Corporate Woods Parkway Vernon Hills, IL 60061

SEVERN TRENT LABORATORIES, INC.

John D. Powell Project Manager

September 12, 2002

Case Narrative LOT NUMBER: F2I050108

This report contains the analytical results for the six samples received under chain of custody by STL St. Louis on September 5, 2002. These samples are associated with your Waste Characterization project.

All applicable quality control procedures met method-specified acceptance criteria except as noted below.

This report is incomplete without the case narrative. All results are based upon sample as received, wet weight, unless noted otherwise.

Observations/Nonconformances

Reference the chain of custody and condition upon receipt report for any variations on receipt conditions and temperature of samples on receipt.

Affected Samples:

F2J050108 (1): J-12	F2I050108 (4): K-12
F2I050108 (2): J-14	F2I050108 (5): K-14
F2I050108 (3): J-16 1/2	F2I050108 (6): J-15

Affected Methods:

8081A

Case Narrative:

The overall mean %D is within control limits. Therefore, the CCV is in control. Method 8000B requires notification of individual compounds exceeding %D limits, and they include: 1st CCAL: all ok; 2nd CCAL: (rear column) Heptachlor 16%; 3rd CCAL: (front) Heptachlor 21%, (rear) Heptachlor 16%, Endosulfan sulfate 18%; 4th CCAL: (front) Heptachlor 16%, Endosulfan sulfate 18%, Endrin ketone 18%, (rear) Heptachlor 24%; Endosulfan II 18%; Isodrin -19%.

Associated samples include hits for some of the listed compounds. Sample F21050108-006 has a hit for heptachlor that has a concentration that is less than the RL but greater than the MDL and is flagged with a J to indicate an estimated concentration. All other samples are ND.

Affected Samples:

F2I050108 (4): K-12 F2I050108 (5): K-14 F2I050108 (6): J-15

Affected Methods:

8081A

Case Narrative:

The RL for samples F21050108-4 and 5 is elevated due to the presence of interfering, non-target, compounds. The associated sample extracts were dark yellow to brown in color.

METHODS SUMMARY

F2I050108

PARAMETER	ANALYTICAL METHOD	PREPARATION METHOD
Organochlorine Pesticides Percent Moisture	SW846 8081A MCAWW 160.3 MOD	SW846 3550 MCAWW 160.3 MOD

References:

MCAWW "Methods for Chemical Analysis of Water and Wastes",

EPA-600/4-79-020, March 1983 and subsequent revisions.

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical

Methods", Third Edition, November 1986 and its updates.

SAMPLE SUMMARY

P21050108

10 a	SAMPLES	CLIEFT SAMPLE ID	Sampled Date	SAMP TIME
<u></u>				
E7PPT	001	J-12	09/04/02	08:25
E7PPV	002	J-14	09/04/02	08:17
E7PPW	003	J-16 1/2	08/29/02	14:00
E7PPI	004	K-12	09/04/02	08:1!
E7PP0	005	K-14	09/04/02	08:20
E7PP1	006	J-15	08/29/02	09:00

HOTE (8):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results usual as "NO" were not descend at or above the stated lines.
- This report must not be reproduced, except in fell, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrossvity, density, fleshpoint, ignitability, layers, edor, post filter test, pff., perceity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

Client Sample ID: J-12

GC Semivolatiles

Lot-Sample #: F2I050108-001			Matrix SOLID
Date Sampled: 09/04/02 08:25			
Prep Date: 09/06/02	-		
Prep Batch #: 2249219	Analysis Time:	03:18	
Dilution Factor: 1			
% Moisture: 7.3	Method:	SW846 8081	A
		REPORTING	
PARAMETER	RESULT	LIMIT	UNITS
Aldrin	ND	1.8	ug/kg
alpha-BHC	ND	1.8	ug/kg
gamma-BHC (Lindane)	ND	1.8	ug/kg
Chlordane (technical)	ND	18	ug/kg
4,4'-DDT	ND	1.8	ug/kg
Dieldrin	ND	1.8	ug/kg
Heptachlor	ND	1.8	ug/kg
Heptachlor epoxide	ND	7.2	ug/kg
	PERCENT	RECOVERY	
SURROGATE	RECOVERY	LIMITS	
Decachlorobiphenyl	127	(50 - 151)	
Tetrachloro-m-xylene	75	(64 - 131)	

NOTE (S):

Results and reporting limits have been adjusted for dry weight.

LOT # F2I050108

Client Sample ID: J-12

General Chemistry

Lot-Sample #...: P2I050108-001 Work Order #...: E7PPT Matrix.....: SOLID

Date Sampled...: 09/04/02 08:25 Date Received..: 09/05/02

* Moisture....: 7.3

 PARAMETER
 RESULT
 RL
 UNITS
 METHOD
 ANALYSIS
 DATE
 BATCH #

 Percent Moisture
 7.3
 0.10
 %
 MCANW 160.3 MOD
 09/09/02
 2252472

Dilution Factor: 1 Analysis Time..: 17:20

Client Sample ID: J-14

GC Semivolatiles

 Date Sampled...:
 09/04/02 08:12
 Date Received...:
 09/05/02

 Prep Date.....:
 09/06/02
 Analysis Date...:
 09/10/02

 Prep Batch #...:
 2249219
 Analysis Time...:
 03:47

Dilution Factor: 1

† Moisture....: 9.6 **Method.....:** SW846 8081A

REPORTING

			• •
PARAMETER	RESULT	LIMIT	UNITS
Aldrin	ND	1.9	ug/kg
alpha-BHC	ND	1.9	ug/kg
gamma-BHC (Lindane)	ND	1.9	ug/kg
Chlordane (technical)	ND	19	ug/kg
4,4'-DDT	ND	1.9	ug/kg
Dieldrin	ND	1.9	ug/kg
Heptachlor	ND	1.9	ug/kg
Heptachlor epoxide	ND	7.4	ug/kg
	PERCENT	RECOVERY	r.
SURROGATE	RECOVERY	LIMITS	
Decachlorobiphenyl	107	(50 - 15	51)
Tetrachloro-m-xylene	87	(64 - 13	31)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

LOT # F2I050108

Client Sample ID: J-14

General Chemistry

Lot-Sample #...: P2I050108-002 Work Order #...: E7PPV Matrix..... SOLID

Date Sampled...: 09/04/02 08:12 Date Received..: 09/05/02

* Moisture....: 9.6

PREPARATION- PREP ANALYSIS DATE BATCH # | RESULT | RL | UNITS | | 9.6 | 0.10 | % METHOD ANALYSIS DATE
MCARW 160.3 MOD 09/09/02 Percent Moisture 9.6 2252472

Dilution Factor: 1 Analysis Time..: 17:20

Client Sample ID: J-16 1/2

GC Semivolatiles

Lot-Sample #: F2I0	50108-003 Work Orde	r #: E7PPW1AA	Matrix:	SOLID

 Date Sampled...:
 08/29/02
 14:00
 Date Received...:
 09/05/02

 Prep Date....:
 09/06/02
 Analysis Date...:
 09/10/02

 Prep Batch #...:
 2249219
 Analysis Time...:
 04:16

Dilution Factor: 1

* Moisture....: 8.0 Method.....: SW846 8081A

		REPORTING	;
PARAMETER	RESULT	LIMIT	UNITS
Aldrin	ND	1.8	ug/kg
alpha-BHC	ND	1.8	ug/kg
gamma-BHC (Lindane)	ND	1.8	ug/kg
Chlordane (technical)	ND	18	ug/kg
4,4'-DDT	ND	1.8	ug/kg
Dieldrin	ND	1.8	ug/kg
Heptachlor	ND	1.8	ug/kg
Heptachlor epoxide	ND	7.3	ug/kg
	PERCENT	RECOVERY	
SURROGATE	RECOVERY	LIMITS	_
Decachlorobiphenyl	78	(50 - 151	.
Tetrachloro-m-xylene	76	(64 - 131	.)

NOTE (S):

Results and reporting limits have been adjusted for dry weight.

LOT # F2I050108

Client Sample ID: J-16 1/2

General Chemistry

Lot-Sample #...: P2I050108-003 Work Order #...: E7PPW Matrix.....: SOLID

Date Sampled...: 08/29/02 14:00 Date Received..: 09/05/02

* Moisture....: 8.0

 PARAMETER
 RESULT
 RL
 UNITS
 METHOD
 ANALYSIS DATE
 BATCH #

 Percent Moisture
 8.0
 0.10
 %
 MCANW 160.3 MOD
 09/09/02
 2252472

Dilution Factor: 1 Analysis Time..: 17:20

Client Sample ID: K-12

GC Semivolatiles

Int-Sample #	: F2I050108-004	Work Order #	- ETPPYIAA	Matrix	SOLID
TOC-SOMETIC B.	: FZIUJUIUO~UU4	MOLK OLUCE B.	E/FFALMA	PELLIA	

 Date Sampled...:
 09/04/02
 08:15
 Date Received...:
 09/05/02

 Prep Date....:
 09/06/02
 Analysis Date...:
 09/10/02

 Prep Batch #...:
 2249219
 Analysis Time...:
 06:13

Dilution Factor: 10

* Moisture....: 13 Method.....: SW846 8081A

		REPORTING	
PARAMETER	RESULT	LIMIT	UNITS
Aldrin	ND	20	ug/kg
alpha-BHC	ND	20	ug/kg
gamma-BHC (Lindane)	ND	20	ug/kg
Chlordane (technical)	ND	200	ug/kg
4,4'-DDT	ND	20	ug/kg
Dieldrin	ND	20	ug/kg
Heptachlor	ND	20	ug/kg 4 / 2
Heptachlor epoxide	ND	77	ug/kg ~ NCUISEC RL
SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS	to 39 jug/Kg
Decachlorobiphenyl	0.0 DIL,NC	(50 - 151)	(see rpt 10/14/02)
Tetrachloro-m-xylene	0.0 DIL,NC	(64 - 131)	(See 4 pt 10/14/02)

NOTE (S):

Results and reporting limits have been adjusted for dry weight.

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

NC The recovery and/or RPD were not calculated.

Client Sample ID: K-12

General Chemistry

Lot-Sample #...: F2I050108-004 Work Order #...: E7PPX Matrix.....: SOLID

Date Sampled...: 09/04/02 08:15 Date Received..: 09/05/02

* Moisture....: 13

 PARAMETER
 RESULT
 RL
 UNITS
 METHOD
 ANALYSIS DATE
 BATCH #

 Percent Moisture
 13.2
 0.10
 %
 MCANN 160.3 MOD
 09/09/02
 2252472

Dilution Factor: 1 Analysis Time..: 17:20

LOT # F2I050108

Client Sample ID: K-14

GC Semivolatiles

Lot-Sample #:	F2I050108-005	Work Order #: E7	7PP01AA Matrix SOLII)
Date Sampled:	09/04/02 08:20	Date Received: 09	9/05/02	
_				

 Prep Date....:
 09/06/02
 Analysis Date...:
 09/10/02

 Prep Batch #...:
 2249219
 Analysis Time...:
 06:42

Dilution Factor: 10

† Moisture....: 11 **Method.....:** SW846 8081A

		REPORTING	
PARAMETER	RESULT	LIMIT	UNITS
Aldrin	ND	19	ug/kg
alpha-BHC	ND	19	ug/kg
gamma-BHC (Lindane)	ND	19	ug/kg
Chlordane (technical)	ND	190	ug/kg
4,4'-DDT	ND	19	ug/kg
Dieldrin	ND	19	ug/kg
Heptachlor	ND	19	ug/kg (+ / /
Heptachlor epoxide	ND	75	ug/kg - revised npt hand
	PERCENT	RECOVERY	to 38 mg/Kg (see oft 10/14/02)
SURROGATE	RECOVERY	LIMITS	- (10/14/0)
Decachlorobiphenyl	0.0 DIL,NC	(50 - 151)	CSCC 17 11190g
Tetrachloro-m-xylene	0.0 DIL,NC	(64 - 131)	

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

NC The recovery and/or RPD were not calculated.

Client Sample ID: K-14

General Chemistry

Lot-Sample #...: F2I050108-005 Work Order #...: E7PP0 Matrix.....: SOLID

Date Sampled...: 09/04/02 08:20 Date Received..: 09/05/02

* Moisture....: 11

 PARAMETER
 RESULT
 RL
 UNITS
 METHOD
 ANALYSIS DATE
 BATCH #

 Percent Moisture
 11.1
 0.10
 \$
 MCARW 160.3 MOD
 09/09/02
 2252472

Dilution Pactor: 1 Analysis Time..: 17:20

LOT # F2I050108

Client Sample ID: J-15

GC Semivolatiles

Lot-Sample #:	F2I050108-006	Work Order	#: E7PP11AA	Matrix:	SOLID
---------------	---------------	------------	-------------	---------	-------

 Date Sampled...:
 08/29/02
 09:00
 Date Received...:
 09/05/02

 Prep Date....:
 09/06/02
 Analysis Date...:
 09/10/02

 Prep Batch #...:
 2249219
 Analysis Time...:
 07:11

Dilution Factor: 500

* Moisture....: 10 Method.....: SW846 8081A

		REPORTING	
PARAMETER	RESULT	LIMIT	UNITS
Aldrin	470 J,COL	950	ug/kg
alpha-BHC	ND	950	ug/kg
gamma-BHC (Lindane)	170 J,COL	950	ug/kg
Chlordane (technical)	46000	9500	ug/kg
4,4'-DDT	ND	950	ug/kg
Dieldrin	N D	950	ug/kg
Heptachlor	350 J,COL	950	ug/kg
Heptachlor epoxide	ND	3700	ug/kg
	PERCENT	RECOVERY	
SURROGATE	RECOVERY	LIMITS	
Decachlorobiphenyl	0.0 DIL,NC	(50 - 151)
Tetrachloro-m-xylene	0.0 DIL,NC	(64 - 131)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

COL More than 40% difference between primary and confirmation column results. The lower of the two results is reported.

LOT # F2I050108

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

NC The recovery and/or RPD were not calculated.

J Estimated result. Result is less than RL.

Client Sample ID: J-15

General Chemistry

Lot-Sample #...: F2I050108-006 Work Order #...: E7PP1 Matrix.....: SOLID

Date Sampled...: 08/29/02 09:00 Date Received..: 09/05/02

* Moisture....: 10

 PARAMETER
 RESULT
 RL
 UNITS
 METHOD
 ANALYSIS
 DATE
 BATCH #

 Percent Moisture
 10.1
 0.10
 %
 MCANW 160.3 NOD
 09/09/02
 2252472

Dilution Factor: 1 Analysis Time..: 17:20

LOT # F21050108

METHOD BLANK REPORT

GC Semivolatiles

Client Lot #...: F2I050108 Work Order #...: E7R1K1AA Matrix.....: SOLID

MB Lot-Sample #: D2I060000-219

Prep Date....: 09/06/02 Analysis Time..: 07:40

Dilution Factor: 1

		REPORTI	NG				
PARAMETER	RESULT	<u>LIMIT</u>	UNITS	METHOD			
Aldrin	ND	1.7	ug/kg	SW846 8081A			
alpha-BHC	ND	1.7	ug/kg	SW846 8081A			
gamma-BHC (Lindane)	ND	1.7	ug/kg	SW846 8081A			
Chlordane (technical)	ND	17	ug/kg	SW846 8081A			
4,4'-DDT	ND	1.7	ug/kg	SW846 8081A			
Dieldrin	ND	1.7	ug/kg	SW846 8081A			
Heptachlor	ND	1.7	ug/kg	SW846 8081A			
Heptachlor epoxide	ND	6.7	ug/kg	SW846 8081A			
	PERCENT	RECOVER'	Y				
SURROGATE	RECOVERY	LIMITS					
Decachlorobiphenyl	99	(50 - 1	51)				
Tetrachloro-m-xylene	85	(64 - 1	31)				

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LOT # F2I050108 17

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC Semivolatiles

Client Lot #...: F2I050108 Work Order #...: E7R1KlAC Matrix.....: SOLID

LCS Lot-Samples: D2I060000-219

 Prep Date....: 09/06/02
 Analysis Date..: 09/09/02

 Prep Batch #...: 2249219
 Analysis Time..: 17:33

Dilution Pactor: 1

	PERCENT	RECOVERY	
PARAMETER	RECOVERY	LIMITS	METHOD
Aldrin	89	(72 - 129)	SW846 8081A
gamma-BBC (Lindane)	88	(69 - 131)	SW846 8081A
Rodrin	90	(70 - 137)	SW846 8081A
4,4'-DDT	9 5	(65 - 150)	SW846 8081A
Dieldrin	88	(73 - 133)	SW846 8081A
Heptachlor	104	(63 - 146)	SW846 8081A
		PERCENT	RECOVERY
SURROGATE		RECOVERY	LIMITS
Decachlorobiphenyl		89	(50 - 151)
Tetrachloro-m-xylene		88	(64 - 131)

MOTE (S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Rold print denotes coursel parameters

LOT # F21050108

11

Chain of Custody Record

1.7°



Services Severn Trent Laboratories, Inc.

STL-4124 (0901)																	4				_				,	, H
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Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Air	Sed.	Soil	Unpres.	HZSO4	HNOS	Ę	NaOH	NaOH	Q	3V	1										Listed	Pes	7.
Temp Blank													2	1										Aldri	<u>`</u>	
J-12	9/4/00	8:25			X	8			_	_	\perp	\times	1	_	_							L		alphi	2-BE	26_
<u>J-14</u>	9/4/07	8:17		1_	X	X						X	1	_		_							_	Chlor	dane	Tech
J-16/2	8/29/0	2 14:00	<i>:</i>		X.	X						X	1			<u> </u>				L				diel	dri	7
K1Z	9/4/02	8:15			X,	<u> </u>						_ ∠	1											heat	aclo	V
K14	9/4/02	8:20			M	X					\perp	<u>×</u>	1											henta	clor	Foxla
J-15	8/29/02	9:00			X	X							Ł	14	Kel	ے	mt	zin	<u>.</u>	119	4			Linde	rue	
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Possible Hazard Identification Non-Hazard	Poison B	☐ Unknown		•	sposal To Cli			ispos	al B	v Lat	· [chive	For .	<u>-</u>		Mon	ths			nay t			ed if samples are	retained	
Turn Around Time Required											(Ѕрес		-	-									<u> </u>	··		
24 Hours	ays 🗌 21 Day	ys Date	181	. Ti	me		1 5	ecen	ed A	lv .		•	7	,	Æ									Date	, Time	
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STL Denver Sample Receiving Checklist

Lot #: F21050 108 Date/Time Received: 95/02 0400	
Company Name & Sampling Site: 5TL- 5TL ou.'s	
*Cooler #(s): /	
Temperatures (°C): 1.4	•
PM to Complete This Section: Yes No Residual chlorine check required: Q	
Time Zone:	
• EDT/EST • CDT/CST • MDT/MST • PDT/PST • OTHER	
Unpacking & Labeling Check Points:	
	tials ^)
1. Cooler seals intact. (N/A if hand delivered)	/ _^
2. Chain of custody present.	/
3. Bottles broken and/or are leaking, comment if yes.	
4. Multiphase samples present? If yes, comment below.	
PHOTOGRAPH BROKEN BOTTLES/MULTIPHASE SAMPLES	1/1
5. Proper container & preservatives used (ref. Attachment D of SOP# DEN-QA-0003)	1
☐ ☐ 6. pH of all samples checked and meet requirements, note exceptions.	
7. Chain of custody includes "received by" and "relinquished" by signatures, dates, and times.	
8. Receipt date(s) > 48 hours past the collection date(s)? If yes, notify PA/PM.	
9. Chain of custody agrees with bottle count, comment if no.	
10. Chain of costody agrees with labels, comment if no.	
□ □ □ ::. VOA samples filled completely, comment if no.	
☐ ☐ 12. VOA vials preserved, check label. Preservative ☐HCl ☐4±2°C ☐Sodium Thiosulfate	
☐ ☐ 13. Did samples require preservation with sodium thiosulfate?	
1 0 14. If yes to #12, did the samples contain residual chlorine?	
C	
☐ ☐ 16. Are analyses with short holding times requested?	
☐ ☐ 17. Was a quick Turn Around (TAT) requested?	
☐ ☐ 18. Is extra sample volume provided for MS, MSD or matrix duplicates?	
DOUBLECHECK METALS, SAMPLE LABELS & SUBCONTRACT	
☐ ☐ 19. Subcontract COC signed and sent with samples to bottle prep?	
☐ ☐ 20. Were sample labels double-checked by a second person?	<u></u>
☐ ☐ 21. Were sample bottles and COC double checked for dissolved/filtered metals by a second person?	
☐ ☐ 22. If applicable, were AFCEE Metals placed in the walkin refrigerator?	
Document any problems or discrepancies and the actions taken to resolve them on a Condition Upon Receipt Anom Report (CUR).	aly

QAVForms Sample Receiving SR Checklist

2/28/02 Revision





STL St. Louis 13715 Rider Trail North Earth City, MO 63045

Tel 314 298 8566 Fax 314 298 8757 www.stl-inc.com

ANALYTICAL REPORT

Waste Characterization

Lot #: F2H300266

Rich Berggreen

STS Acquisitions Co. 750 Corporate Woods Parkway Vernon Hills, IL 60061

SEVERN TRENT LABORATORIES, INC.

John D. Powell Project Manager

September 6, 2002

Case Narrative LOT NUMBER: F2H300266

This report contains the analytical results for the four samples received under chain of custody by STL St. Louis on August 30, 2002. These samples are associated with your Waste Characterization project.

All applicable quality control procedures met method-specified acceptance criteria except as noted below.

This report is incomplete without the case narrative. All results are based upon sample as received, wet weight, unless noted otherwise.

Observations/Nonconformances

Reference the chain of custody and condition upon receipt report for any variations on receipt conditions and temperature of samples on receipt.

Affected Samples:

F2H300266 (3): J-15

Affected Methods:

8081A

Case Narrative:

The reporting limit is elevated due to the presence of high levels of compounds of interest.

Affected Samples:

F2H300266 (1): F-12

Affected Methods:

8081A

Case Narrative:

MSD recovery for Heptachlor failed control limits 63-146% at 203% and had a RPD of 59% (limit=0-30%). The raw data show clear evidence of matrix interference. Nonhomogenous sample matrix is suspected. All other calibration and QC criteria were met.

METHODS SUMMARY

F2H300266

PARAMETER	ANALYTICAL METHOD	PREPARATION METHOD
Organochlorine Pesticides	SW846 8081A	SW846 3550
Percent Moisture	MCAWW 160.3 MOD	MCAWW 160.3 MOD

References:

MCAWW "Methods for Chemical Analysis of Water and Wastes",

EPA-600/4-79-020, March 1983 and subsequent revisions.

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical

Methods", Third Edition, November 1986 and its updates.

SAMPLE SUMMARY

P2H300266

WO #	SAMPLE	CLIENT SAMPLE ID	SAMPLED SAI DATE TI	
E7JFE	001	F-12	08/29/02 08	: 45
E7JFL	002	P-14	08/29/02 09	:50
E7JFP	003	J-15	08/29/02 09): od
E7JFQ	004	G-20	08/29/02 09	:50

MOTE(S):

- The analysical results of the samples limit above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results around as "NID" were not detected at or above the street limit.
- This separt must not be seproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, dessity, flustpoint, ignitability, layers, odor, pasts filter test. pEL percenty pressure, reactivity, testes potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

Client Sample ID: F-12

GC Semivolatiles

Lot-Sample #:	F2H300266-001	Work Order #: E7	JFELAA Matrix S	SOLID
			* *	

 Date Sampled...:
 08/29/02 08:45
 Date Received...:
 08/30/02

 Prep Date....:
 09/03/02
 Analysis Date...:
 09/05/02

 Prep Batch #...:
 2246517
 Analysis Time...:
 10:11

Dilution Factor: 1

*** Moisture....:** 15 Method.....: SW846 8081A

		REPORTIN	r G
PARAMETER	RESULT	LIMIT	UNITS
Aldrin	0.47 J,COL	2.0	ug/kg
alpha-BHC	ND	2.0	ug/kg
gamma-BHC (Lindane)	ND	2.0	ug/kg
Chlordane (technical)	ND	20	ug/kg
4,4'-DDT	0.43 J,COL	2.0	ug/kg
Dieldrin	1.1 J,COL	2.0	ug/kg
Heptachlor	3.5 COL	2.0	ug/kg
Heptachlor epoxide	ND	7.9	ug/kg
	PERCENT	RECOVERY	•
SURROGATE	RECOVERY	LIMITS	
Decachlorobiphenyl	81	(50 - 15	1)
Tetrachloro-m-xylene	88	(64 - 13	1)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

COL More than 40% difference between primary and confirmation column results. The lower of the two results is reported.

J Estimated result. Result is less than RL.

Client Sample ID: F-12

General Chemistry

Date Sampled...: 08/29/02 08:45 Date Received..: 08/30/02

* Moisture....: 15 Lot-Sample #...: F2H300266-001 Work Order #...: E7JFE Matrix....: SOLID

*** Moisture....:** 15

PREPARATION- PREP
 RESULT
 RL
 UNITS
 METHOD
 ANALYSIS DATE
 BATCH #

 14.8
 0.10
 %
 MCANW 160.3 MOD
 09/03/02
 2247203
 PARAMETER Percent Moisture

Dilution Factor: 1 Analysis Time..: 18:45

Client Sample ID: P-14

GC Semivolatiles

Lot-Sample #:	F2H300266-002	Work Order #: E7JFL1AA	Matrix SOLID

Date Sampled...: 08/29/02 09:50 Date Received..: 08/30/02
 Prep Date....:
 09/03/02
 Analysis Date..:
 09/05/02

 Prep Batch #...:
 2246517
 Analysis Time..:
 10:51

Dilution Factor: 1

% Moisture....: 13 Method..... SW846 8081A

		REPORTIN	1 G
PARAMETER	RESULT	LIMIT	UNITS
Aldrin	ND	2.0	ug/kg
alpha-BHC	ND	2.0	ug/kg
gamma-BHC (Lindane)	ND	2.0	ug/kg
Chlordane (technical)	ND	20	ug/kg
4,4'-DDT	ND	2.0	ug/kg
Dieldrin	ND	2.0	ug/kg
Heptachlor	ND	2.0	ug/kg
Heptachlor epoxide	ND	7.7	ug/kg
	PERCENT	RECOVERY	<i>t</i>
SURROGATE	RECOVERY	LIMITS	
Decachlorobiphenyl	74	(50 - 15	51)
Tetrachloro-m-xylene	77	(64 - 13	31)

NOTE (S):

Results and reporting limits have been adjusted for dry weight.

Client Sample ID: F-14

General Chemistry

Matrix....: SOLID Lot-Sample #...: F2H300266-002 Work Order #...: B7JFL

Date Sampled...: 08/29/02 09:50 Date Received..: 08/30/02

† Moisture....: 13

PREPARATION- PREP
 RESULT
 RL
 UNITS
 METHOD
 ANALYSIS DATE
 BATCH #

 13.3
 0.10
 %
 MCANW 160.3 MOD
 09/03/02
 2247203
 Percent Moisture

Dilution Factor: 1 Analysis Time..: 18:45

Client Sample ID: J-15

GC Semivolatiles

Lot-Sample #:	F2H300266-003	Work Order	F: E7JFP1AA	Matrix SOLID
			((

 Date Sampled...:
 08/29/02
 09:00
 Date Received...:
 08/30/02

 Prep Date....:
 09/03/02
 Analysis Date...:
 09/05/02

 Prep Batch #...:
 2246517
 Analysis Time...:
 11:04

Dilution Factor: 1000

* Moisture....: 7.3 Method....: SW846 8081A

		REPORTING	3
PARAMETER	RESULT	LIMIT	UNITS
Aldrin	440 J,COL	1800	ug/kg
alpha-BHC	ND	1800	ug/kg
gamma-BHC (Lindane)	ND	1800	ug/kg
Chlordane (technical)	150000	18000	ug/kg
4,4'-DDT	ND	1800	ug/kg
Dieldrin	640 J,COL	1800	ug/kg
Heptachlor	2600	1800	ug/kg
Heptachlor epoxide	ND	7200	ug/kg
	PERCENT	RECOVERY	
SURROGATE	RECOVERY	RECOVERY LIMITS	
Decachlorobiphenyl	0.0 DIL,NC	(50 - 151	L)
Tetrachloro-m-xylene	0.0 DIL,NC	(64 - 131	L)

NOTE (S):

Results and reporting limits have been adjusted for dry weight.

COL More than 40% difference between primary and confirmation column results. The lower of the two results is reported.

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

NC The recovery and/or RPD were not calculated.

J Estimated result. Result is less than RL.

Client Sample ID: J-15

General Chemistry

Lot-Sample #...: F2H300266-003 Work Order #...: E7JFP Matrix.....: SOLID

Date Sampled...: 08/29/02 09:00 Date Received..: 08/30/02

* Moisture....: 7.3

 PARAMETER
 RESULT
 RL
 UNITS
 METHOD
 ANALYSIS
 DATE
 BATCH #

 Percent Moisture
 7.3
 0.10
 %
 MCANW 160.3 MOD
 09/03/02
 2247203

Dilution Factor: 1 Analysis Time..: 18:45

LOT # F2H300266

Client Sample ID: G-20

GC Semivolatiles

Lot-Sample #:	F2H300266-004	Work Order #:	E7JFQ1AA	Matrix SOLID
Date Sampled:	08/29/02 09:50	Date Received:	08/30/02	
Prep Date:	09/03/02	Analysis Date:	09/05/02	

Prep Batch #...: 2246517 Analysis Time..: 11:18

Dilution Factor: 1 **% Moisture....:** 7.3 Method.....: SW846 8081A

		REPORTIN	IG	
PARAMETER	RESULT	LIMIT	UNITS	
Aldrin	ND	1.8	ug/kg	
alpha-BHC	ND	1.8	ug/kg	
gamma-BHC (Lindane)	ND	1.8	ug/kg	
Chlordane (technical)	ND	18	ug/kg	
4,4'-DDT	ND	1.8	ug/kg	
Dieldrin	ND	1.8	ug/kg	
Heptachlor	ND	1.8	ug/kg	
Heptachlor epoxide	ND	7.2	ug/kg	
	PERCENT	RECOVERY	•	
SURROGATE	RECOVERY	LIMITS	LIMITS	
Decachlorobiphenyl	76	(50 - 15	51)	
Tetrachloro-m-xylene	81	(64 - 13	1)	

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

LOT # F2H300266

11

Client Sample ID: G-20

General Chemistry

Lot-Sample #...: F2H300266-004 Work Order #...: R7JFQ Matrix.....: SOLID

Date Sampled...: 08/29/02 09:50 Date Received..: 08/30/02

* Moisture....: 7.3

 PARAMETER
 RESULT
 RL
 UNITS
 METHOD
 ANALYSIS DATE
 BATCH #

 Percent Moisture
 7.3
 0.10
 %
 MCANW 160.3 MOD
 09/03/02
 2247203

Dilution Factor: 1 Analysis Time..: 18:45

LOT # F2H300266

METHOD BLANK REPORT

GC Semivolatiles

Client Lot #...: F2H300266

Work Order #...: E7L8F1AA

Matrix....: SOLID

MB Lot-Sample #: D2I030000-517

Prep Batch #...: 09/03/02
Prep Batch #...: 2246517

Analysis Time..: 11:31

Analysis Date..: 09/05/02

Dilution Factor: 1

		REPORTI	1G	
PARAMETER	RESULT	LIMIT	UNITS	METHOD
Aldrin	ND	1.7	ug/kg	SW846 8081A
alpha-BHC	ND	1.7	ug/kg	SW846 8081A
gamma-BHC (Lindane)	ND	1.7	ug/kg	SW846 8081A
Chlordane (technical)	ND	17	ug/kg	SW846 8081A
4,4'-DDT	ND	1.7	ug/kg	SW846 8081A
Dieldrin	ND	1.7	ug/kg	SW846 8081A
Heptachlor	ND	1.7	ug/kg	SW846 8081A
Heptachlor epoxide	ND	6.7	ug/kg	SW846 8081A
	PERCENT	RECOVER	r	
SURROGATE	RECOVERY	LIMITS		
Decachlorobiphenyl	86	(50 - 19	51)	
Tetrachloro-m-xylene	84	(64 - 13	31)	

NOTE (S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC Semivolatiles

Client Lot #...: F2H300266 Work Order #...: E7L8F1AC Matrix.....: SOLID

LCS Lot-Sample#: D2I030000-517

 Prep Date....: 09/03/02
 Analysis Date..: 09/05/02

 Prep Batch %...: 2246517
 Analysis Time..: 09:58

Dilution Pactor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD
Aldrin	98	(72 - 129)	SW846 8081A
gamma-BHC (Lindane)	96	(69 - 131)	SW846 8081A
Endrin	110	(70 - 137)	SW846 8081A
4,4'-DDT	111	(65 - 150)	SW846 8081A
Dieldrin	92	(73 - 133)	SW846 8081A
Heptachlor	101	(63 - 146)	SW846 8081A
•		PERCENT	RECOVERY
SURROGATE		RECOVERY	LIMITS_
Decachlorobiphenyl		103	(50 - 151)
Tetrachloro-m-xylene		97	(64 - 131)

MOTE(S):

1

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denses control parameters

1

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC Semivolatiles

Client Lot #...: F2H300266 Work Order #...: E7JFE1AD-MS Matrix.....: SOLID

RECOVERY

RPD

MS Lot-Sample #: F2H300266-001 E7JFE1AE-MSD

 Date Sampled...:
 08/29/02
 08:45
 Date Received...:
 08/30/02

 Prep Date.....:
 09/03/02
 Analysis Date...:
 09/05/02

 Prep Batch #...:
 2246517
 Analysis Time...:
 10:24

PERCENT

	FERCENT	KECOAEKI		RFD	
PARAMETER	RECOVERY	LIMITS	RPD	LIMITS	METHOD
Aldrin	118	(72 - 129)			SW846 8081A
	110	(72 - 129)	6.4	(0-30)	SW846 8081A
gamma-BHC (Lindane)	90	(69 - 131)			SW846 8081A
	99	(69 ~ 131)	9.4	(0-30)	SW846 8081A
Rndrin	124	(70 - 137)			SW846 8081A
	108	(70 - 137)	13	(0-30)	SW846 8081A
4,4'-DDT	102	(65 - 150)			SW846 8081A
	113	(65 - 150)	10	(0-30)	SW846 8081A
Dieldrin	92	(73 - 133)			SW846 8081A
	113	(73 - 133)	19	(0-30)	SW846 8081A
Heptachlor	102	(63 - 146)			SW846 8081A
	203 a,p	(63 - 146)	59	(0-30)	SW846 8081A
		PERCENT		RECOVERY	
SURROGATE		RECOVERY		LIMITS	
Decachlorobiphenyl		78		(50 - 15	1)
_ _		94		(50 - 15	1)
Tetrachloro-m-xylene		90		(64 - 13	1)
		97		(64 - 13	1)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

Results and reporting limits have been adjusted for dry weight.

- a Spiked analyte recovery is outside stated control limits.
- p Relative percent difference (RPD) is outside stated control limits.

Chain of	
Custody F	Record



0.07 De 973 DS 434 Severn Trent Laboratories, Inc.

Citeri 575		Project Menager Picky Bale GG Mager								Dete 8/29/02			Che	n of Cyslody M 147	548 E			
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Project Name and Location (State)	Carrie	r/Waybli	Number							ł							Special I	nstructions/
Contract/Purchase Order/Cuota No. 25085 - XI			Matrix			ontain osorvi			18/2	7	ו זו							of Receipt
Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Time	2	N 3	2	08	ğ	P.	25	1/8	7/	0						5W846	8081
F-12 8/29/2	2840	1	K			-			X		\perp		$\downarrow \downarrow$				Postali	
x-14	0960		x						K		$\bot \bot$		Ш			\perp	Al DZ	<u>v</u>
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Possible Hazard Identification	1	Sei	npie Disposal	,		l	I	11	i	L		<u> </u>	_ll	/A fee	may be	######################################	d if samples are	retained
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☐ 24 Hours ☐ 48 Hours 20 7 Days ☐ 14 Days ☐ 21 D		ther				ceived		· /	<u>.</u>	'			1				Date!	Tina
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2. Relinquished By	Date		Time		2. Re	coived	D\$	1		مرمز		-				1	Obto (Time
3. Relinquished By	Date	~	Time		3. Re	ceived	Ву		· · · · -								Date	 πme

STL Denver

Sample Receiving Checklist

Lot #: 121-300266 Date/Time Received: 88/30/02 0845
Company Name & Sampling Site: 5TL St. Lows
*Cooler #(s):
Temperatures (°C): <u>0.9</u>
PM to Complete This Section: Yes No
Residual chlorine check required: Time Zone:
• EDT/EST • CDT/CST • MDT/MST • PDT/PST • OTHER
Unpacking & Labeling Check Points:
N/A Yes No Initials
☐ ☐ 1. Cooler seals intact. (N/A if hand delivered)
2. Chain of custody present.
3. Bottles broken and/or are leaking, comment if yes. 4. Multiphase samples present? If yes, comment below.
PHOTOGRAPH BROKEN BOTTLES/MULTIPHASE SAMPLES
□ 5. Proper container & preservatives used (ref. Attachment D of SOP# DEN-QA-0003)
□ □ □ 6. pH of all samples checked and meet requirements, note exceptions.
7. Chain of custody includes "received by" and "relinquished" by signatures, dates, and times.
□ □ 8. Receipt date(s) > 48 hours past the collection date(s)? If yes, notify PA/PM.
9. Chain of custody agrees with bottle count, comment if no.
☐ ☐ 10. Chain of custody agrees with labels, comment if no.
□ □ □ 11. VOA samples filled completely, comment if no.
□ □ 12. VOA vials preserved, check label. Preservative □HCl □4±2°C □Sodium Thiosulfate
☐ ☐ 13. Did samples require preservation with sodium thiosulfate?
□ □ 14. If yes to #12, did the samples contain residual chlorine?
□ □ 15. Sediment present in dissolved/filtered bottles.
□ □ 16. Are analyses with short holding times requested?
☐ 17. Was a quick Turn Around (TAT) requested?
□ □ 18. Is extra sample volume provided for MS, MSD or matrix duplicates?
DOUBLECHECK METALS, SAMPLE LABELS & SUBCONTRACT
☐ ☐ 19. Subcontract COC signed and sent with samples to bottle prep?
□ □ 20. Were sample labels double-checked by a second person?
□ □ 21. Were sample bottles and COC double checked for dissolved/filtered metals by a second person?
□ □ 22. If applicable, were AFCEE Metals placed in the walkin refrigerator?

Occument any problems or discrepancies and the actions taken to resolve them on a Condition Upon Receipt Anomaly eport (CUR).

\QA\Forms\Sample Receiving\SR Checklist

2/28/02 Revision



STL St. Louis 13715 Rider Trail North Earth City, MO 63045

Tel 314 298 8566 Fax 314 298 8757 www.stl-inc.com

ANALYTICAL REPORT

REVISED

Waste Characterization

Lot #: F2H210313

Rich Berggreen

STS Acquisitions Co. 750 Corporate Woods Parkway Vernon Hills, IL 60061

SEVERN TRENT LABORATORIES, INC.

John D. Powell Project Manager

September 3, 2002

Revised Case Narrative LOT NUMBER: F2H210313

This report contains the analytical results for the seven samples received under chain of custody by STL St. Louis on August 21, 2002. These samples are associated with your Waste Characterization project.

All applicable quality control procedures met method-specified acceptance criteria except as noted below.

This report is incomplete without the case narrative. All results are based upon sample as received, wet weight, unless noted otherwise.

Observations/Nonconformances

Reference the chain of custody and condition upon receipt report for any variations on receipt conditions and temperature of samples on receipt.

This report has been revised to report only the pesticides of interest.

Affected Samples:

F2H210313 (2): I-16 F2H210313 (3): I-18

F2H210313 (4): F-21 F2H210313 (5): F-14

Affected Methods:

8081A

Case Narrative:

The reporting limit for these samples is elevated due to the presence of interfering, non-target, compounds. The associated sample extracts were yellow to brown in color. Matrix interferences (large peaks) are observed in the sample chromatograms.

METHODS SUMMARY

F2H210313

PARAMETER	ANALYTICAL METHOD	PREPARATION METHOD		
Organochlorine Pesticides Percent Moisture	SW846 8081A MCAWW 160.3 MOD	SW846 3550 MCAWW 160.3 MOD		

References:

MCAWW "Methods for Chemical Analysis of Water and Wastes",

EPA-600/4-79-020, March 1983 and subsequent revisions.

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical

Methods", Third Edition, November 1986 and its updates.

SAMPLE SUMMARY

P2H210313

MO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED SAMP DATE TIME
E60KE	002	I-16	08/20/02 10:45
E60KP	003	I-18	08/20/02 11:00
B60KG	004	F-21	08/20/02 13:40
B60KH	005	P-14	08/20/02 13:20
B60KJ	006	F-16	08/20/02 13:00
B60KK	007	P-18	08/20/02 13:10

DUE (8) :

- The analytical results of the samples listed above are presented on the following pages.
- AE calculations are performed before rounding to avoid round-off errors in calculated results.
- Remain materia as "PCD" were not desected at or above the stated Bank.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight busic color, corrosivity, density, flushpoint, ignitability, layers, edec, patter their text, pff., perceity presence, reactivity, redox posterial, specific gravity, apor texts, solubility, temperature, viscosity, and weight.

STS ACQUISITIONS CO. dba STS CONS., LTD.

Client Sample ID: I-16

GC Semivolatiles

Lot-Sample #: F2H210313-002	Work Order #: E60KE1AA	Matrix: SOLID
Date 0 00/20/02 10.45	Date Bestered . 00/21/02	

 Date Sampled...:
 08/20/02 10:45 Date Received...:
 08/21/02

 Prep Date.....:
 08/22/02 Analysis Date...:
 08/26/02

 Prep Batch #...:
 2234216 Analysis Time...:
 19:13

Dilution Factor: 5

* Moisture....: 16 Method.....: SW846 8081A

		REPORTING	
PARAMETER	RESULT	LIMIT	UNITS
Aldrin	ND	2.0	ug/kg
alpha-BHC	ND	2.0	ug/kg
gamma-BHC (Lindane)	ND	2.0	ug/kg
Chlordane (technical)	68 COL	20	ug/kg
4,4'-DDT	ND	2.0	ug/kg
Dieldrin	5.0	2.0	ug/kg
Heptachlor	3.7	2.0	ug/kg
Heptachlor epoxide	ND	7.9	ug/kg
	PERCENT	RECOVERY	
SURROGATE	RECOVERY	LIMITS	_
Decachlorobiphenyl	0.0 DIL,NC	(50 - 151)
Tetrachloro-m-xylene	0.0 DIL,NC	(64 - 131)

NOTE (S):

COL More than 40% difference between primary and confirmation column results. The lower of the two results is reported.

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analyses.

NC The recovery and/or RPD were not calculated.

Results and reporting limits have been adjusted for dry weight.

STS ACQUISITIONS CO. dba STS COMS., LTD.

Client Sample ID: I-16

General Chemistry

Lot-Sample #...: F2H210313-002 Work Order #...: E60KE
Date Sampled...: 08/20/02 10:45 Date Received..: 08/21/02 Matrix..... SOLID

* Moisture....: 16

					PREPARATION-	PREP
PARAMETER	RESULT	RL_	UNITS	METROD	AMALYSIS DATE	BATCH #
Percent Moisture	15.6	0.10	*	MCANW 160.3 MOD	08/27/02	2239419

Dilution Factor: 1 Analysis Time..: 15:15

STS ACQUISITIONS CO. dba STS CONS., LTD.

Client Sample ID: I-18

GC Semivolatiles

Lot-Sample #:	F2H210313-003	Work Order #:	E60KF1AA	Matrix:	SOLID
---------------	---------------	---------------	----------	---------	-------

 Date Sampled...:
 08/20/02
 11:00
 Date Received...:
 08/21/02

 Prep Date....:
 08/22/02
 Analysis Date...:
 08/26/02

 Prep Batch #...:
 2234216
 Analysis Time...:
 19:42

Dilution Factor: 5

* Moisture....: 7.7 Method.....: SW846 8081A

		REPORTING	3
PARAMETER	RESULT	LIMIT	UNITS
Aldrin	ND	1.8	ug/kg
alpha-BHC	ND	1.8	ug/kg
gamma-BHC (Lindane)	ND	1.8	ug/kg
Chlordane (technical)	ND	18	ug/kg
4,4'-DDT	ND	1.8	ug/kg
Dieldrin	ND	1.8	ug/kg
Heptachlor	ND	1.8	ug/kg
Heptachlor epoxide	ND	7.3	ug/kg
	PERCENT	RECOVERY	
SURROGATE	RECOVERY	LIMITS	
Decachlorobiphenyl	0.0 DIL,NC	(50 - 151	1)

(64 - 131)

0.0 DIL,NC

NOTE (S):

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

Tetrachloro-m-xylene

Results and reporting limits have been adjusted for dry weight.

NC The recovery and/or RPD were not calculated.

STS ACQUISITIONS CO. dba STS COMS., LTD.

Client Sample ID: I-18

General Chemistry

Lot-Sample #...: P2H210313-003 Work Order #...: E60KF
Date Sampled...: 08/20/02 11:00 Date Received..: 08/21/02 Matrix..... SOLID

* Moisture....: 7.7

PREPARATION-PREP UNITS RL METHOD ANALYSIS DATE BATCH # PARAMETER RESULT Percent Moisture 7.7 0.10 MCANW 160.3 MOD 08/27/02 2239419

Dilution Factor: 1 Analysis Time..: 15:15

STS ACQUISITIONS CO. dba STS CONS., LTD.

Client Sample ID: F-21

GC Semivolatiles

Lot-Sample #: F2H210313-	04 Work Order #: E60KG1AA	Matrix SOLID
--------------------------	---------------------------	--------------

 Date Sampled...:
 08/20/02 13:40 Date Received...:
 08/21/02

 Prep Date.....:
 08/22/02 Analysis Date...:
 08/26/02

 Prep Batch #...:
 2234216 Analysis Time...:
 20:11

Dilution Factor: 5

% Moisture....: 19 Method.....: SW846 8081A

	n-4	REPORTING	42
PARAMETER	<u> </u>	<u>LIMIT</u>	UNITS
Aldrin	ND	2.1	ug/kg
alpha-BHC	ND	2.1	ug/kg
gamma-BHC (Lindane)	ND	2.1	ug/kg
Chlordane (technical)	ND	21	ug/kg
4,4'-DDT	ND	2.1	ug/kg
Dieldrin	ND	2.1	ug/kg
Heptachlor	ND	2.1	ug/kg
Heptachlor epoxide	5.2 J, COL	8.3	ug/kg
	PERCENT	RECOVERY	
SURROGATE	RECOVERY	LIMITS	_
Decachlorobiphenyl	0.0 DIL,NC	(50 - 151)
Tetrachloro-m-xylene	0.0 DIL,NC	(64 - 131))

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

NC The recovery and/or RPD were not calculated.

J Estimated result. Result is less than RL.

COL More than 40% difference between primary and confirmation column results. The lower of the two results is reported.

STS ACQUISITIONS CO. dba STS COMS., LTD.

Client Sample ID: F-21

General Chemistry

Lot-Sample #...: F2H210313-004 Work Order #...: B60KG
Date Sampled...: 08/20/02 13:40 Date Received..: 08/21/02 Matrix..... SOLID

*** Moisture....:** 19

					PREPARATION-	PREP
PARAMETER	RESULT	RL	UNITS	METHOD	ANALYSIS DATE	BATCH #
Percent Moisture	19.3	0.10	8	MCANW 160.3 MOD	08/27/02	2239419

Dilution Factor: 1 Analysis Time..: 15:15

STS ACQUISITIONS CO. dba STS CONS., LTD.

Client Sample ID: F-14

GC Semivolatiles

Lot-Sample #: F2H210313-005	Work Order #: E60KH1AA	Matrix SOLID
-----------------------------	------------------------	--------------

 Date
 Sampled...:
 08/20/02
 13:20
 Date
 Received...:
 08/21/02

 Prep
 Date...:
 08/22/02
 Analysis
 Date...:
 08/26/02

 Prep
 Batch #...:
 2234216
 Analysis
 Time...:
 20:40

Dilution Factor: 5

* Moisture....: 17 Method.....: SW846 8081A

		REPORTING	G
PARAMETER	RESULT	LIMIT	UNITS
Aldrin	ND	2.0	ug/kg
alpha-BHC	ND	2.0	ug/kg
gamma-BHC (Lindane)	ND	2.0	ug/kg
Chlordane (technical)	ND	20	ug/kg
4,4'-DDT	ND	2.0	ug/kg
Dieldrin	ND	2.0	ug/kg
Heptachlor	ND	2.0	ug/kg
Heptachlor epoxide	4.6 J	8.1	ug/kg
	PERCENT	RECOVERY	
SURROGATE	RECOVERY	LIMITS	
Decachlorobiphenyl	0.0 DIL,NC	(50 - 15	1)
Tetrachloro-m-xylene	0.0 DIL,NC	(64 - 13	1)

NOTE (S):

Results and reporting limits have been adjusted for dry weight.

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

NC The recovery and/or RPD were not calculated.

J Estimated result. Result is less than RL.

STS ACQUISITIONS CO. dba STS COMS., LTD.

Client Sample ID: F-14

General Chemistry

Lot-Sample #...: F2H210313-005 Work Order #...: E60KH
Date Sampled...: 08/20/02 13:20 Date Received..: 08/21/02 Matrix....: SOLID

* Moisture....: 17

PREPARATION-PREP RESULT RL UNITS METHOD ANALYSIS | 08/27/02 ANALYSIS DATE BATCH # 0.10 17.0 2239419 Percent Moisture

Dilution Factor: 1 Analysis Time..: 15:15

STS ACQUISITIONS CO. dba STS CONS., LTD.

Client Sample ID: F-16

GC Semivolatiles

Lot-Sample #: F2H210313-006	Work Order #: E60KJ1AA	Matrix SOLID
-----------------------------	------------------------	--------------

 Date Sampled...:
 08/20/02 13:00 Date Received...:
 08/21/02

 Prep Date....:
 08/22/02 Analysis Date...:
 08/26/02

 Prep Batch #...:
 2234216 Analysis Time...:
 21:09

Dilution Factor: 1

* Moisture....: 15 Method.....: SW846 8081A

		REPORTING	1
PARAMETER	RESULT	LIMIT	UNITS_
Aldrin	ND	2.0	ug/kg
alpha-BHC	0.59 J,COL	2.0	ug/kg
gamma-BHC (Lindane)	ND	2.0	ug/kg
Chlordane (technical)	ND	20	ug/k g
4,4'-DDT	ND	2.0	ug/kg
Dieldrin	ND	2.0	ug/ kg
Heptachlor	ND	2.0	ug/ k g
Heptachlor epoxide	ND	7.8	ug/kg
	PERCENT	RECOVERY	
SURROGATE	RECOVERY	LIMITS	_
Decachlorobiphenyl	70	(50 - 151)
Tetrachloro-m-xylene	88	(64 - 131)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

COL More than 40% difference between primary and confirmation column results. The lower of the two results is reported.

J Estimated result. Result is less than RL.

STS ACQUISITIONS CO. dba STS COMS., LTD.

Client Sample ID: F-16

General Chemistry

Matrix....: SOLID

Lot-Sample #...: F2H210313-006 Work Order #...: E60KJ
Date Sampled...: 08/20/02 13:00 Date Received..: 08/21/02

* Moisture....: 15

					PREPARATION-	PREP
PARAMETER	RESULT	RL _	UNITS	METHOD	ANALYSIS DATE	BATCH #
Percent Moisture	14.6	0.10	•	MCANW 160.3 MOD	08/27/02	2239419

Dilution Factor: 1 Analysis Time..: 15:15

STS ACQUISITIONS CO. dba STS CONS., LTD.

Client Sample ID: F-18

GC Semivolatiles

Lot-Sample #: F2H210313-007	Work Order #: E60KK1AA	Matrix SOLID
-----------------------------	------------------------	--------------

 Date
 Sampled...:
 08/20/02
 13:10
 Date
 Received...:
 08/21/02

 Prep
 Date...:
 08/22/02
 Analysis
 Date...:
 08/26/02

 Prep
 Batch #...:
 2234216
 Analysis
 Time...:
 21:39

Dilution Factor: 1

* Moisture....: 17 Method.....: SW846 8081A

		REPORTIN	'G
PARAMETER	RESULT	LIMIT	UNITS
Aldrin	1.0 J	2.1	ug/kg
alpha-BHC	ND	2.1	ug/kg
gamma-BHC (Lindane)	ND	2.1	ug/kg
Chlordane (technical)	ND	21	ug/kg
4,4'-DDT	ND	2.1	ug/kg
Dieldrin	ND	2.1	ug/kg
Heptachlor	ND	2.1	ug/kg
Heptachlor epoxide	ND	8.1	ug/kg
	PERCENT	RECOVERY	
SURROGATE	RECOVERY	LIMITS	
Decachlorobiphenyl	77	(50 - 15	1)
Tetrachloro-m-xylene	97	(64 - 13	1)

NOTE (S):

Results and reporting limits have been adjusted for dry weight.

J Estimated result. Result is less than RL.

STS ACQUISITIONS CO. dba STS COMS., LTD.

Client Sample ID: F-18

General Chemistry

Lot-Sample #...: F2H210313-007 Work Order #...: E60KK Matrix.....: SOLID

Date Sampled...: 08/20/02 13:10 Date Received..: 08/21/02

* Moisture....: 17

					PREPARATION-	PREP
PARAMETER	RESULT	RL	UNITS	METHOD	ANALYSIS DATE	BATCH #
Percent Moisture	17.5	0.10	*	MCARW 160.3 NOD	08/27/02	2239419

Dilution Factor: 1 Analysis Time..: 15:15

METHOD BLANK REPORT

GC Semivolatiles

Client Lot #...: F2H210313 Work Order #...: E61LW1AA Matrix.....: SOLID

MB Lot-Sample #: D2H220000-216

Prep Date....: 08/22/02 Analysis Time..: 17:16

Dilution Factor: 1

		REPORTING	;	
PARAMETER	RESULT	LIMIT	UNITS	METHOD
Aldrin	ND	1.7	ug/kg	SW846 8081A
alpha-BHC	ND	1.7	ug/kg	SW846 8081A
gamma-BHC (Lindane)	ND	1.7	ug/kg	SW846 8081A
Chlordane (technical)	ND	17	ug/kg	SW846 8081A
4,4'-DDT	ND	1.7	ug/kg	SW846 8081A
Dieldrin	ND	1.7	ug/kg	SW846 8081A
Heptachlor	ND	1.7	ug/kg	SW846 8081A
Reptachlor epoxide	ND	6.7	ug/kg	SW846 8081A
	PERCENT	RECOVERY		
SURROGATE	RECOVERY	LIMITS		
Decachlorobiphenyl	99	(50 - 151	.)	
Tetrachloro-m-xylene	100	(64 - 131	.)	

NOTE (S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC Semivolatiles

Client Lot #...: F2H210313 Work Order #...: E61LW1AC Matrix.....: SOLID

LCS Lot-Samples: D2H220000-216

 Prep Date....: 08/22/02
 Analysis Date..: 08/26/02

 Prep Batch #...: 2234216
 Analysis Time..: 14:49

Dilution Factor: 1

	PERCENT	RECOVERY	
PARAMETER	RECOVERY	LIMITS	METHOD
Aldrin	93	(72 - 129)	SW846 8081A
gamma-BBC (Lindane)	92	(69 - 131)	SW846 8081A
Endrin	96	(70 - 137)	SW846 8081A
4,4'-DDT	87	(65 - 150)	SW846 8081A
Dieldrin	92	(73 - 133)	SW846 8081A
Heptachlor	98	(63 - 146)	SW846 8081A
		PERCENT	RECOVERY
SURROGATE		RECOVERY	LIMITS
Decachlorobiphenyl		94	(50 - 151)
Tetrachloro-m-xylene		102	(64 - 131)

EDIE (S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

PARAMETER

Aldrin

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC Semivolatiles

Client Lot #...: F2H210313 Work Order #...: E6VCA1AD-MS Matrix.....: SOLID

RECOVERY

(72 - 129)

LIMITS

RPD

LIMITS

METHOD

SW846 8081A

RPD

MS Lot-Sample #: F2H200218-001 E6VCA1AE-MSD

 Date Sampled...:
 08/19/02
 14:00
 Date Received...:
 08/20/02

 Prep Date....:
 08/22/02
 Analysis Date...:
 08/27/02

 Prep Batch #...:
 2234216
 Analysis Time...:
 17:45

 Dilution Factor:
 50
 * Moisture....:
 9.6

PERCENT

NC, DIL

RECOVERY

	NC, DIL	(72 - 129)	(0-30)	SW846 8081A
gamma-BHC (Lindane)	NC, DIL	(69 - 131)		SW846 8081A
	NC, DIL	(69 - 131)	(0-30)	SW846 8081A
Endrin	NC, DIL	(70 - 137)		SW846 8081A
	NC, DIL	(70 - 137)	(0-30)	SW846 8081A
4,4'-DDT	NC, DIL	(65 - 150)		SW846 8081A
	NC, DIL	(65 - 150)	(0-30)	SW846 8081A
Dieldrin	NC, DIL	(73 - 133)		SW846 8081A
	NC, DIL	(73 - 133)	(0-30)	SW846 8081A
Heptachlor	NC, DIL	(63 - 146)		SW846 8081A
	NC, DIL	(63 - 146)	(0-30)	SW846 8081A
		PERCENT	RECOVERY	
SURROGATE		RECOVERY	LIMITS	<u></u>
Decachlorobiphenyl	-	0.0	(50 - 151	<u>L)</u>
	Qualif	iers: DIL,NC		
		0.0	(50 - 151	L)
	Qualif	iers: DIL,NC		
Tetrachloro-m-xylene		0.0	(64 - 13)	L)
	Qualif	iers: DIL,NC		
		0.0	(64 - 131	L)
	Qualif	iers: DIL,NC		

NOTE (S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

NC The recovery and/or RPD were not calculated.

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analyses.

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STL ST. LOUIS

الانتسان Page 1

SEVERN TRENT LABORATORIES, INC Rum Date: 8/21/02
CLIENT ANALYSIS SUMMARY Time: 16:00:36
STL St. Louis User Id.: WILSONS

CLIENT: 378708 STS ACQUISITIONS CO. dba STS CONS., LTD. QUOTE/SAR #: 43710

LAB ID: F-2H210313-001 PROJECT MANAGER: John D. Powell

PROJECT #:

WORK ORDER: E60KD

Rich Berggreen REPORT TO:

RECEIVING DATE: 8/21/02

P.C. NUMBER: SITE: Waste Characterization ANALYTICAL DUE DATE: 8/28/02N

SAMPLING DATE: 8/20/02

REPORT DUE DATE: 8/28/02

AMOUNT REC*D: 120G

PRIORITY: 07

STORAGE LOC: S7 LOT COMMENTS:

SAMPLING TIME: 10:27

MATRIX: SOLID

RECEIVING TIME: 9:45

USAF MATRIX: SAMPLE ID: J-16

SDG# :

QC PACKAGE: Report SAMPLE COMMENTS:

Beginning Depth: .00 Ending Depth: .00

WRK REQUEST EXTRACTION ANALYSIS

***** ANALYSIS ***** <u> 100</u> DATE EXP DATE EXP DATE

06 8/21/02 0/00/00 11/27/02 NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION

(A-88-ZZ-01) E63KD-1-AA Protocol: Z QC Program: STANDARD TEST SET

PSL20300 Page 1 PSL20300

SEVERN TRENT LABORATORIES, INC Run Date: 8/21/02 CLIENT ANALYSIS SUMMARY Time: 16:00:36

STL St. Louis

User Id.: WILSONS

CLIENT: 378708 STS ACQUISITIONS CO. dba STS CONS., LTD. QUOTE/SAR #: 43710

PROJECT MANAGER: John D. Powell LAB ID: F-2H210313-002

PROJECT #: WORK ORDER: E60KE

REPORT TO: Rich Berggreen RECEIVING DATE: 8/21/02

SAMPLING DATE: 8/20/02 P.O. NUMBER:

SITE: Waste Characterization ANALYTICAL DUE DATE: 8/28/02N AMOUNT REC"D: 120G REPORT DUE DATE: 8/28/02

STORAGE LOC: STLDENVER PRIORITY: 07

LOT COMMENTS: SAMPLING TIME: 10:45 RECEIVING TIME: 9:45 MATRIX: SOLID

USAF MATRIX: SAMPLE ID: I-16

QC PACKAGE: Report SDG# :

SAMPLE COMMENTS:

Beginning Depth: .00 Ending Depth: .00

WRK REQUEST EXTRACTION ANALYSIS

***** ANALYSIS ***** EXP DATE EXP DATE <u>LOC</u> DATE 04 8/21/02 9/03/02 10/13/02

Pesticides (8081A) SONICATION - Low Level

Q: SW846 Method 8081A Standard List

A-13-QJ-01) E60KE-1-AA Protocol: A QC Program: STANDARD TEST SET

Moisture, Percent (160.3) 04 8/21/02 0/00/00 11/27/02

NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION

(A-88-WM-01) E60KE-1-AC Protocol: A QC Program: STANDARD TEST SET

P5L20300 P5L20300 Page 1 SEVERN TRENT LABORATORIES, INC Run Date: 6/21/02
CLIENT ANALYSIS SUMMARY Time: 16:00:37
STL St. Louis User Id.: WILSONS

Time: 16:00:37

RECEIVING TIME: 9:45

04 8/21/02 9/03/02 10/13/02

CLIENT: 378708 STS ACQUISITIONS CO. dba STS CONS., LTD. QUOTE/SAR #: 43710

LAB ID: F-2H210313-003 PROJECT MANAGER: John D. Powell

PROJECT #: WORK ORDER: E60KF

Rich Berggreen RECEIVING DATE: 8/21/02 REPORT TO:

SAMPLING DATE: 8/20/02 P.O. NUMBER:

SITE: Waste Characterization ANALYTICAL DUE DATE: 8/28/02N REPORT DUE DATE: 8/28/02

AMOUNT RECTO: 120G PRIORITY: 07

STORAGE LOC: STLDENVER SAMPLING TIME: 11:00 LCT COMMENTS:

MATRIX: SOLID USAF MATRIX:

SAMPLE ID: 1-15 SDG# : QC PACKAGE: Report

SAMPLE COMMENTS:

Beginning Depth: .00 Ending Depth: .00

WRK REQUEST EXTRACTION ANALYSIS **** ANALYSIS ***** <u>roc</u> DATE EXP DATE EXP DATE

Pesticides (8081A) SONICATION - Low Level

Q: SW846 Method 8081A Standard List

(A-13-QJ-01) E60KF-1-AA Protocol: A QC Program: STANDARD TEST SET

Moisture, Percent (160.3) 04 8/21/02 0/00/0G 11/27/02

NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION

(A-68-WM-01) B60KF-1-AC Protocol: A QC Program: STANDARD TEST SET

PSL20300 Page 1

SEVERN TRENT LABORATORIES, INC Run Date: 8/21/02 CLIENT ANALYSIS SUMMARY Time: 16:00:37

STL St. Louis

User Id.: WILSONS

CLIENT: 378708 STS ACQUISITIONS CO. dba STS CONS., LTD. QUOTE/SAR #: 43710 PROJECT MANAGER: John D. Powell LAB ID: F-2H210313-004

WORK ORDER: E60KG PROJECT #:

Rich Berggreen RECEIVING DATE: 8/21/02 REPORT TO:

SAMPLING DATE: 8/20/02 P.O. NUMBER:

ANALYTICAL DUE DATE: 8/28/02N SITE: Waste Characterization

REPORT DUE DATE: 8/28/02 AMOUNT REC"D: 120G

STORAGE LOC: STLDENVER PRIORITY: 07

LOT COMMENTS: SAMPLING TIME: 13:40 RECEIVING TIME: 9:45

MATRIX: SOLID USAF MATRIX: SAMPLE ID: F-21

QC PACKAGE: Report SDG# :

SAMPLE COMMENTS:

Beginning Depth: .00 Ending Depth: .00

> WRK REQUEST EXTRACTION ANALYSIS LOC DATE EXP DATE EXP DATE ***** ANALYSIS *****

8/21/02 9/03/02 10/13/02 04 Pesticides (8081A)

SONICATION - Low Level

Q: SW846 Method 8081A Standard List

'A-13-QJ-01) E60KG-1-AA Protocol: A QC Program: STANDARD TEST SET

Moisture, Percent (160.3) 04 8/21/02 0/00/00 11/27/02

NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION

(A-88-WM-01) E60KG-1-AC Protocol: A QC Program: STANDARD TEST SET

STL ST. LOUIS

Page 1

SEVERN TRENT LABORATORIES, INC Run Date: 8/21/02
CLIENT ANALYSIS SUMMARY Time: 16:00:37
STL St. Louis User Id.: WILSONS

CLIENT: 378708 STS ACQUISITIONS CC. dba STS CONS., LTD. QUOTE/SAR #: 43710

PROJECT MANAGER: John D. Powell LAB ID: F-2H210313-005

WORK ORDER: E60KH PROJECT #:

RECEIVING DATE: 8/21/02 SAMPLING DATE: 8/20/02 Rich Berggreen REPORT TO:

P.O. NUMBER:

SITE: Waste Characterization ANALYTICAL DUE DATE: 8/28/02N REPORT DUE DATE: 8/28/02 AMOUNT REC*D: 120G

STORAGE LOC: STLDENVER PRIORITY: C7

SAMPLING TIME: 13:20 LCT COMMENTS: RECEIVING TIME: 9:45 MATRIX: SOLID

USAF MATRIX: SAMPLE ID: F-14

QC PACKAGE: Report SDG# :

SAMPLE COMMENTS:

Beginning Depth: .00 Ending Depth: .00

WRK REQUEST EXTRACTION ANALYSIS ***** ANALYSIS ***** LOC DATE EXP DATE EXP DATE

C4 8/21/02 9/03/C2 10/13/02 Pesticides (8081A)

SONICATION - Low Level

Q: 5W846 Method 8081A Standard List

(A-13-QJ-01) E60KH-1-AA Protocol: A QC Program: STANDARD TEST SET

04 8/21/32 0/00/00 11/27/02 Moisture, Percent (160.3)

NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION

(A-88-WM-01) E60KH-1-AC Protocol: A QC Program: STANDARD TEST SET

PSL20300 SEVERN TRENT LABORATORIES, INC Run Date: 8/21/02
Page 1 CLIENT ANALYSIS SUMMARY Time: 16:00:37
STL St. Louis User Id.: WILSONS

CLIENT: 378708 STS ACQUISITIONS CO. dba STS CONS., LTD. QUOTE/SAR #: 43710

PROJECT MANAGER: John D. Powell LAB ID: F-2H210313-006

WORK ORDER: E60KJ PROJECT #:

Rich Berggreen RECEIVING DATE: 8/21/02 REPORT TO:

P.O. NUMBER: SAMPLING DATE: 8/20/02

SITE: Waste Characterization ANALYTICAL DUE DATE: 8/28/02N

REPORT DUE DATE: 8/28/02 AMOUNT REC"D: 120G

STORAGE LOC: STLDENVER PRIORITY: 07

SAMPLING TIME: 13:00 LOT COMMENTS: MATRIX: SOLID RECEIVING TIME: 9:45

USAF MATRIX: SAMPLE ID: F-16

SDG# : QC PACKAGE: Report

SAMPLE COMMENTS:

Beginning Depth: .00 Ending Depth: .00

WRK REQUEST EXTRACTION ANALYSIS ***** ANALYSIS ***** LOC DATE EXP DATE EXP DATE 04 8/21/02 9/03/02 10/13/02

Pesticides (8081A) SONICATION - Low Level

Q: SW846 Method 8081A Standard List

(A-13-QJ-01) E60KJ-1-AA Protocol: A QC Program: STANDARD TEST SET

04 8/21/02 0/00/00 11/27/02 Moisture, Percent (160.3)

NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION

(A-88-WM-01) E60KJ-1-AC Protocol: A QC Program: STANDARD TEST SET

PSL20300 SEVERN TRENT LABORATORIES, INC Run Date: 8/21/02
Page 1 CLIENT ANALYSIS SUMMARY Time: 16:00:37
STL St. Louis User Id.: WILSONS

CLIENT: 378708 STS ACQUISITIONS CO. dba STS CONS., LTD. QUOTE/SAR #: 43710

PROJECT MANAGER: John D. Powell LAB ID: F-2H210313-007

PROJECT #: WORK ORDER: E60KK

REPORT TO: Rich Berggreen RECEIVING DATE: 8/21/02

SAMPLING DATE: 8/20/02 P.O. NUMBER: P.O. NUMBER:
SITE: Waste Characterization ANALYTICAL DUE DATE: 8/28/02N

REPORT DUE DATE: 8/28/02 AMOUNT REC"D: 120G

STORAGE LOC: STLDENVER PRICRITY: 07

SAMPLING TIME: 13:10 LOT COMMENTS: RECEIVING TIME: 9:45 MATRIX: SOLID

USAF MATRIX:

SAMPLE ID: F-18

QC PACKAGE: Report SDG# :

SAMPLE COMMENTS:

Beginning Depth: .00 Ending Depth: .00

WRK REQUEST EXTRACTION ANALYSIS LOC DATE EXP DATE EXP DATE ***** ANALYSIS *****

04 6/21/02 9/03/02 10/13/02 Pesticides (8081A)

SONICATION - Low Level

Q: SW846 Method 8081A Standard List

(A-13-QJ-01) E60KK-1-AA Protocol: A QC Program: STANDARD TEST SET

04 8/21/02 0/00/00 11/27/02 Moisture, Percent (160.3)

NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION

(A-86-WM-01) B60KK-1-AC Protocol: A QC Program: STANDARD TEST SET

Chain	of		
Custo	dy F	Recor	d





Services Severn Trent Laboratories, Inc.

STL-4124 (0901)	(m,							-							_ `	,		• • • • •	,	.000,	
Client S7S		Project	Manager		_			-						Dai	81	20	loz	C	Chain of Custody 1	7687	
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Address 760 Cozyosiń wosty City VEZNOW H-7/ JL Project Name and Location (State)		Carrier/	Waybill Ni		38	199	843	34	687	18									Special	Instruction	s/
Contract/Purchase Order/Quote No. 25,585 KZ			М	atrix			Conta	ainers rvativ	&											ns of Rece	
Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Air	So. Sod		Unpres. H2SO4	HINO3	Na Ot	ZrAc/ NaOH	W									Sury	<u>५</u> 8घ८	-/
J-16	8/20/02	10:27		(3 3		×		40	22	Q	21/	200			PESTIE		
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Possible Hazard Identification Non-Hazard Flammable Skin Irritant	□ Poison B	☐ Unknown		Dispos		П	Disnos	al By L	ah [hive F	or			lonths		e may be er than 1		sed if samples are	retained	_
Turn Around Time Required		LI Cimioni	1		<u> </u>				ts (Spec					<u> </u>							
24 Hours 48 Hours 7 Days 14 Days	ays 🔲 21 Day		er			-	- A A			· <u> </u>										T :	
1. Relinquished By	ı	Date 8/2	5/02	Time		> ''		. N.L	200	a	n	h	1 <i>A</i> 0 .	Λ					18/21/02	Time 9	5
2. Relinquished By		Date		Time		2.	receiv	ed By		V	~	/ 				•			Date	Time	
3. Relinquished By		Date		Time	/. _::		Receive	ed By									ı		Date	Time	
Comments				L		— —						~							L	J	

Powell, John

From: Kornder, Steve [Kornder@stsconsultants.com]

Sent: Wednesday, August 21, 2002 10:15 AM

To: Powell, John

Subject: Pesticide Samples

Morning John,

The lab should receive seven samples from STS this morning for pesticide analysis. One of those samples (J16) was mistakenly sent and should not be analyzed. Please delete this sample from your analysis log.

As always, any information yet on when we might be able to expect results on the samples (a total of eight) that are currently at the lab.

Thanks again,

Steve

ph: (817) 279-2448



Lot No.: F2H2/03/3

Condition Upon Receipt Form St. Louis Laboratory

Client:	STS	Da	ate: 8/21/02 Time: 9:45
Quote 1	No: 43710	Ini	itiated by: MMZ
Shippe	No: 82938731606	co	OC/RFA Numbers: 147687
Condit	ion/Variance (Circle "Y" for yes and "N" for t	no. If "N" is circled	d, see notes for explanation):
1.	N Sample received in undamaged condition	n. 5. (Ŷ	N Sample volume sufficient for analysis.
2.	N Sample received within 4-C ± 2-C*	6. (Y	N Sample received with Chain of Custody.
1	Record temperature:	7. (Ŷ	N Chain of Custody matches sample IDs on containers.
3.	Y N N/A Sample received with proper pH**.	8. Y	N Custody seal received intact and tamper evident on cooler.
4. (Y) N Sample received in proper containers.	9.	Custody seal received intact and tamper evident on bottles.
			
	erature Variance Does Not Affect the Following And		
** For I	DOE-AL (Pantex, LANL, Sandia, Timet) sites, reme	ember to pH all contai	niners received, except for VOA, TOX, and soils.
Notes:			· · · · · · · · · · · · · · · · · · ·
			
			
Correct	ive Action:		
	Client's Name:	Informed verbally of	on: By:
	Client's Name:	 Informed in writing 	g on: By:
	Sample(s) processed "as is".	-	
	Sample(s) on hold until:		If released, notify:
Sample	Control Supervisor (or designate) Review:	Na mome	W Date: 8/21/02
-	.,,,,,		15/22-D) -
Project N	Management Review:	July 1	Date:

SIGNED ORIGINAL MUST BE RETAINED IN THE PROJECT FILE THIS FORM MUST BE COMPLETED AT THE TIME THE ITEMS ARE BEING CHECKED IF ANY ITEM IS COMPLETED BY SOMEONE OTHER THAN THE INITIATOR, THEN THAT PERSON IS REQUIRED TO APPLY THEIR INITIALS AND THE DATE NEXT TO THAT ITEM



STL St. Louie 13715 Rider Trail North Earth City, MO 63045

Tel 314 298 8566 Fax 314 298 8757 www.stl-inc.com

ANALYTICAL REPORT

Waste Characterization

Lot #: F2H280172

Rich Berggreen

STS Acquisitions Co. 750 Corporate Woods Parkway Vernon Hills, IL 60061

SEVERN TRENT LABORATORIES, INC.

John D. Powell Project Manager

September 3, 2002

Case Narrative LOT NUMBER: F2H280172

This report contains the analytical results for the six samples received under chain of custody by STL St. Louis on August 27, 2002. These samples are associated with your Waste Characterization project.

All applicable quality control procedures met method-specified acceptance criteria except as noted below

This report is incomplete without the case narrative. All results are based upon sample as received, wet weight, unless noted otherwise.

Observations/Nonconformances

Reference the chain of custody and condition upon receipt report for any variations on receipt conditions and temperature of samples on receipt.

Affected Samples:

F2H280172 (2): H-18 F2H280172 (5): D.5-20 **F2H280172 (4): D.5-18** F2H280172 (6): J.5-8

Affected Methods:

8081A

Case Narrative:

The reporting limit for these samples is elevated due to the presence of interfering, non-target, compounds. The presence of several large peaks and baseline interferences is observed in the associated sample matrix.

METHODS SUMMARY

F2H280172

PARAMETER	METHOD	PREPARATION METHOD
Organochlorine Pesticides	SW846 8081A	SW846 3550
Percent Moisture	MCAWW 160.3 MOD	MCAWW 160.3 MOD

References:

MCAWW "Methods for Chemical Analysis of Water and Wastes",

EPA-600/4-79-020, March 1983 and subsequent revisions.

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical

Methods", Third Edition, November 1986 and its updates.

SAMPLE SUMMARY

F2B280172

100 8	SAMPLE	CLIENT SAMPLE ID		SAMP TIME
E7A8F	001	H-16	08/23/02 13	13:51
E7A8N	002	H-18	08/23/02 13	13:41
E7ASP	003	D.5-16	08/23/02 13	L3:4!
E7AST	004	D.5-18	08/23/02 13	13:50
E7A8X	005	D.5-20	08/23/02 13	13:5
E7A81	006	J.5-8	08/23/02 14	14:2

BOTE(S):

- The analytical runds of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "RD" were not detected at or shove the streed limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrossvay, dessity, fleshpoint, ignitability, layers, odor, passe filter test, pill, perceiny pressure, reactivity, radox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

Client Sample ID: H-16

GC Semivolatiles

Lot-Sample #...: F2H280172-001 Work Order #...: E7A8F1AA Matrix.....: SOLID

 Date Sampled...:
 08/23/02 13:50
 Date Received...:
 08/27/02

 Prep Date....:
 08/29/02
 Analysis Date...:
 08/30/02

 Prep Batch #...:
 2241300
 Analysis Time...:
 13:16

Dilution Factor: 1

* Moisture....: 12 Method.....: SW846 8081A

		REPORTIN	IG .
PARAMETER	RESULT	LIMIT	UNITS
Aldrin	ND	1.9	ug/kg
alpha-BHC	ND	1.9	ug/kg
gamma-BHC (Lindane)	ND	1.9	ug/kg
Chlordane (technical)	ND	19	ug/kg
4,4'-DDT	ND	1.9	ug/kg
Dieldrin	ND	1.9	ug/kg
Heptachlor	ND	1.9	ug/kg
Heptachlor epoxide	ND	7.6	ug/kg
Endrin	ND	1.9	ug/kg
	PERCENT	RECOVERY	•
SURROGATE	RECOVERY	LIMITS	
Decachlorobiphenyl	64	(50 - 15	(1)
Tetrachloro-m-xylene	76	(64 - 13	1)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

Client Sample ID: H-16

General Chemistry

Lot-Sample #...: F2H280172-001 Work Order #...: E7A8F Matrix.....: SOLID Date Sampled...: 08/23/02 13:50 Date Received..: 08/27/02

* Moisture....: 12

					PREPARATION-	PREP
PARAMETER	RESULT	RL	UNITS	METHOD	ANALYSIS DATE	BATCH #
Percent Moisture	11.7	0.10	*	MCANN 160.3 NOD	08/29/02	2241566
	D1	lution Fact	or: 1	Analysis Time: 22:40		

Client Sample ID: H-18

GC Semivolatiles

Lot-Sample #:	F2H280172-002	Work Order #:	E7A8Nlaa	Matrix SOLID
D. L	/ /		/ /	

 Date Sampled...:
 08/23/02
 13:40
 Date Received...:
 08/27/02

 Prep Date....:
 08/29/02
 Analysis Date...:
 08/30/02

 Prep Batch #...:
 2241300
 Analysis Time...:
 13:59

Dilution Factor: 5

* Moisture....: 13 Method.....: SW846 8081A

		REPORTIN	rg
PARAMETER	RESULT	LIMIT	UNITS
Aldrin	ND	9.7	ug/kg
alpha-BHC	ND	9.7	ug/kg
gamma-BHC (Lindane)	ND	9.7	ug/kg
Chlordane (technical)	ND	97	ug/kg
4,4'-DDT	ND	9.7	ug/kg
Dieldrin	ND	9.7	ug/kg
Heptachlor	12	9.7	ug/kg
Heptachlor epoxide	5.8 J	38	ug/kg
	PERCENT	RECOVERY	•
SURROGATE	RECOVERY	LIMITS	
Decachlorobiphenyl	0.0 DIL,NC	(50 - 15	51)
Tetrachloro-m-xylene	0.0 DIL, NC	(64 - 13	1)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

NC The recovery and/or RPD were not calculated.

J Estimated result. Result is less than RL.

Client Sample ID: H-18

General Chemistry

Lot-Sample #...: F2H280172-002 Work Order #...: E7A8N

Date Sampled...: 08/23/02 13:40 Date Received..: 08/27/02 Matrix..... SOLID

* Moisture....: 13

					Preparation-	PREP
PARAMETER	RESULT	RL	UNITS	METHOD	ANALYSIS DATE	BATCH #
Percent Moisture	12.6	0.10	8	MCANN 160.3 NOD	08/29/02	2241566
	Di	lution Facto	or: 1	Analysis Time: 22:40		

Client Sample ID: D.5-16

GC Semivolatiles

Lot-Sample #: F2H280172-003 Date Sampled: 08/23/02 13:45 Prep Date: 08/29/02 Prep Batch #: 2241300 Dilution Factor: 1	Date Received: Analysis Date: Analysis Time:	08/27/02 08/30/02 14:13	Matrix: SOLID
* Moisture: 22	Method:	SW846 8081	A
		REPORTING	
PARAMETER	RESULT	LIMIT	UNITS
Aldrin	0.82 J	2.2	ug/kg
alpha-BHC	0.76 J	2.2	ug/kg
gamma-BHC (Lindane)	ND	2.2	ug/kg
Chlordane (technical)	ND	22	ug/kg
4,4'-DDT	ND	2.2	ug/kg
Dieldrin	0.81 J	2.2	ug/kg
Heptachlor	1.5 J,COL	2.2	ug/kg
Heptachlor epoxide	ND	8.6	ug/kg
	PERCENT	RECOVERY	
SURROGATE	RECOVERY	LIMITS	
Decachlorobiphenyl	88	(50 - 151)	
Tetrachloro-m-xylene	69	(64 - 131)	

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

COL More than 40% difference between primary and confirmation column results. The lower of the two results is reported.

J Estimated result. Result is less than RL.

Client Sample ID: D.5-16

General Chemistry

Lot-Sample #...: F2H280172-003 Work Order #...: E7A8P Matrix.....: SOLID

Date Sampled...: 08/23/02 13:45 Date Received..: 08/27/02

* Moisture....: 22

 PARAMETER
 RESULT
 RL
 UNITS
 METHOD
 ANALYSIS
 DATE
 BATCH #

 Percent Moisture
 22.1
 0.10
 %
 MCANW 160.3 MOD
 08/29/02
 2241566

Dilution Factor: 1 Analysis Time..: 22:40

Client Sample ID: D.5-18

GC Semivolatiles

Lot-Sample #:	F2H280172-004	Work Order	#: E7A8T1AA	Matrix:	SOLID
N-L- 01-3	00/00/00 40 50	D-4- D			

 Date Sampled...:
 08/23/02
 13:50
 Date Received...:
 08/27/02

 Prep Date....:
 08/29/02
 Analysis Date...:
 08/30/02

 Prep Batch #...:
 2241300
 Analysis Time...:
 14:27

Dilution Factor: 10

* Moisture....: 20 Method....: SW846 8081A

		REPORTING	
PARAMETER	RESULT	LIMIT	UNITS
Aldrin	ND	21	ug/kg
alpha-BHC	ND	21	ug/kg
gamma-BHC (Lindane)	ND	21	ug/kg
Chlordane (technical)	ND	210	ug/kg
4,4'-DDT	ND	21	ug/kg
Dieldrin	ND	21	ug/kg
Heptachlor	31	21	ug/kg revised reporting ug/kg limit to 43 mg/ki
Heptachlor epoxide	ND	84	ug/kg
			Limit to 43 mg/kg
	PERCENT	RECOVERY	
SURROGATE	RECOVERY	LIMITS	- le intellement
Decachlorobiphenyl	0.0 DIL,NC	(50 - 151)	5 (see 10/14/00 mpt)
Tetrachloro-m-xylene	0.0 DIL,NC	(64 - 131)	

NOTE(S):

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

NC The recovery and/or RPD were not calculated.

Results and reporting limits have been adjusted for dry weight.

Client Sample ID: D.5-18

General Chemistry

Lot-Sample #...: F2H280172-004 Work Order #...: E7A8T Matrix.....: SOLID

Date Sampled...: 08/23/02 13:50 Date Received..: 08/27/02

* Moisture....: 20

PARAMETER RESULT RL UNITS METHOD ANALYSIS DATE BATCH #
Percent Moisture 20.3 0.10 % MCARW 160.3 MOD 08/29/02 2241566

Dilution Factor: 1 Analysis Time..: 22:40

Client Sample ID: D.5-20

GC Semivolatiles

Lot-Sample #...: F2H280172-005 Work Order #...: E7A8X1AA Matrix.....: SOLID

 Date Sampled...:
 08/23/02
 13:55
 Date Received...:
 08/27/02

 Prep Date....:
 08/29/02
 Analysis Date...:
 08/30/02

 Prep Batch #...:
 2241300
 Analysis Time...:
 14:41

Dilution Factor: 10

* Moisture....: 25 Method.....: SW846 8081A

		REPORTIN	IG
PARAMETER	RESULT	LIMIT	UNITS
Aldrin	15 J	23	ug/kg
alpha-BHC	6.2 J,COL	23	ug/kg
gamma-BHC (Lindane)	ND	23	ug/kg
Chlordane (technical)	ND	230	ug/kg
4,4'-DDT	8.5 J,COL	23	ug/kg
Dieldrin	ND	23	ug/kg
Heptachlor	19 J,COL	23	ug/kg
Heptachlor epoxide	55 J,COL	89	ug/kg
	PERCENT	RECOVERY	•
SURROGATE	RECOVERY	LIMITS	
Decachlorobiphenyl	0.0 DIL,NC	(50 - 15	1)
Tetrachloro-m-xylene	0.0 DIL,NC	(64 - 13	1)

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

NC The recovery and/or RPD were not calculated.

I Estimated result. Result is less than RL.

COL More than 40% difference between primary and confirmation column results. The lower of the two results is reported.

Client Sample ID: D.5-20

General Chemistry

Lot-Sample #...: F2H280172-005 Work Order #...: R7A8X Matrix.....: SOLID

Date Sampled...: 08/23/02 13:55 Date Received..: 08/27/02

* Moisture....: 25

PARAMETER RESULT RL UNITS METHOD ANALYSIS DATE BATCH #
Percent Moisture 24.8 0.10 \$ NCANW 160.3 NOD 08/29/02 2241566

Dilution Factor: 1 Analysis Time..: 22:40

Client Sample ID: J.5-8

GC Semivolatiles

Lot-Sample #: F2H280172-0	06 Work Order #: E7A811AA	Matrix: SOLID

 Date Sampled...:
 08/23/02
 14:20
 Date Received...:
 08/27/02

 Prep Date....:
 08/29/02
 Analysis Date...:
 08/30/02

 Prep Batch #...:
 2241300
 Analysis Time...:
 14:55

Dilution Factor: 10

* Moisture....: 21 Method.....: SW846 8081A

		REPORTING		
PARAMETER	RESULT_	LIMIT	UNITS	
Aldrin	ND	22	ug/kg	
alpha-BHC	ND	22	ug/kg	
gamma-BHC (Lindane)	ND	22	ug/kg	
Chlordane (technical)	ND	220	ug/kg	
4,4'-DDT	ND	22	ug/kg	
Dieldrin	ND	22	ug/kg ug/kg	
Heptachlor	ND	22		
Heptachlor epoxide	ND	85	ug/kg	
	PERCENT	RECOVERY		
SURROGATE	<u>RECOVERY</u>	LIMITS	_	
Decachlorobiphenyl	0.0 DIL,NC	(50 - 151)	_ 	
Tetrachloro-m-xylene	0.0 DIL,NC	(64 - 131))	

NOTE(S):

Results and reporting limits have been adjusted for dry weight.

LOT# F2H280172 15

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

NC The recovery and/or RPD were not calculated.

Client Sample ID: J.5-8

General Chemistry

Lot-Sample #...: F2H280172-006 Work Order #...: E7A81 Matrix.....: SOLID

Date Sampled...: 08/23/02 14:20 Date Received..: 08/27/02

* Moisture....: 21

PARAMETER RESULT RL UNITS METHOD ANALYSIS DATE BATCH #
Percent Moisture 21.3 0.10 \$ MCANN 160.3 NOD 08/29/02 2241566

Dilution Factor: 1 Analysis Time..: 22:40

METHOD BLANK REPORT

GC Semivolatiles

Client Lot #...: F2H280172 Work Order #...: E7FAA1AA Matrix.....: SOLID

MB Lot-Sample #: D2H290000-300

Prep Date....: 08/29/02 Analysis Time..: 15:09

Dilution Factor: 1

		REPORTI	NG	
PARAMETER	RESULT	LIMIT	UNITS	METHOD_
Aldrin	ND	1.7	ug/kg	SW846 8081A
alpha-BHC	ND	1.7	ug/kg	SW846 8081A
gamma-BHC (Lindane)	ND	1.7	ug/kg	SW846 8081A
Chlordane (technical)	ND	17	ug/kg	SW846 8081A
4,4'-DDT	ND	1.7	ug/kg	SW846 8081A
Dieldrin	ND	1.7	ug/kg	SW846 8081A
Heptachlor	ND	1.7	ug/kg	SW846 8081A
Endrin	ND	1.7	ug/kg	SW846 8081A
Heptachlor epoxide	ND	6.7	ug/kg	SW846 8081A
	PERCENT	RECOVER'	Y	
SURROGATE	RECOVERY	LIMITS		
Decachlorobiphenyl	86	(50 - 1	51)	
Tetrachloro-m-xylene	82	(64 - 1	31)	

NOTE (S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC Semivolatiles

Client Lot #...: F2H280172 Work Order #...: E7FAA1AC Matrix.....: SOLID

LCS Lot-Sample#: D2H290000-300

 Prep Date....: 08/29/02
 Analysis Date..: 08/30/02

 Prep Batch #...: 2241300
 Analysis Time..: 13:02

Dilution Pactor: 1

	PERCENT	RECOVERY	
PARAMETER	RECOVERY	LIMITS	METHOD
Aldrin	87	(72 - 129)	SW846 8081A
gasma-BBC (Lindane)	86	(69 - 131)	SW846 8081A
4,4'-DDT	68	(65 - 150)	SW846 8081A
Dieldrin	89	(73 - 133)	SW846 8081A
Reptachlor	81	(63 - 146)	SW846 8081A
Endrin	96	(70 - 137)	SW846 8081A
		PERCENT	RECOVERY
SURROGATE		RECOVERY	LIMITS
Decachlorobiphenyl		91	(50 - 151)
Tetrachloro-m-xylene		86	(64 ~ 131)

HOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print despites countel parameters

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC Semivolatiles

Client Lot #...: F2H280172 Work Order #...: E7A8F1AF-MS Matrix.....: SOLID

MS Lot-Sample #: F2H280172-001 E7A8F1AG-MSD

 Date Sampled...:
 08/23/02
 13:50
 Date Received...:
 08/27/02

 Prep Date....:
 08/29/02
 Analysis Date...:
 08/30/02

 Prep Batch #...:
 2241300
 Analysis Time...:
 13:30

 Dilution Factor:
 1
 % Moisture....:
 12

	PERCENT	RECOVERY		RPD	
PARAMETER	RECOVERY	LIMITS	RPD	LIMITS	METHOD
Aldrin	86	(72 - 129)			SW846 8081A
	88	(72 - 129)	2.2	(0-30)	SW846 8081A
gamma-BHC (Lindane)	85	(69 - 131)			SW846 8081A
	86	(69 - 131)	1.0	(0-30)	SW846 8081A
4,4'-DDT	95	(65 - 150)			SW846 8081A
	98	(65 - 150)	3.1	(0-30)	SW846 8081A
Dieldrin	85	(73 - 133)			SW846 8081A
	87	(73 - 133)	3.0	(0-30)	SW846 8081A
Heptachlor	93	(63 - 146)			SW846 8081A
	94	(63 - 146)	0.53	(0-30)	SW846 8081A
Endrin	88	(70 - 137)			SW846 8081A
	99	(70 - 137)	11	(0-30)	SW846 8081A
		PERCENT		RECOVERY	
SURROGATE		RECOVERY		LIMITS	<u>_</u>
Decachlorobiphenyl		67		(50 - 151	.)
		69		(50 - 151	.)
Tetrachloro-m-xylene		82		(64 - 131	.)
		83		(64 - 131	.)

NOTE (S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

Results and reporting limits have been adjusted for dry weight.

Severn Trent Laboratories, Inc SAMPLE ANALYSIS REQUISITION

LABORATORY: STL Denver

NEED ANALYTICAL REPORT BY

9/02/02

4955 Yarrow Street Arvada

CO 80002, POW EL

ATTY:

LAB FURCHASE ORDER: SR041469

CLIERT CODE: 378708 PROJECT MANAGER: John D. Powell

MUMBER OF SAMPLES IN LOT: 0006

SAMPLE I.D.	SAMPLING DATE	ANALYSIS REQUIRED
P2H280172-001	8/23/02	Pesticides (8081A)
B7A8P-1-AA		(GC8081_S) METHOD: 8081A
P2H250172-001	8/23/02	Moisture, Percent (160.3)
B7A8F-1-AC		(\$MOIST) METROD: 160.3 MOD
P2H280172-002	8/23/02	Pesticides (8081A)
B7ABN-1-AA		(GC8081_S) METHOD: 8081A
F2E260172-302	8/23/02	Moisture, Percent (160.3)
B7ABN-1-AC		(%HOIST) METHOD: 160.3 MOD
P2H280172-003	8/23/02	Pesticides (8081A)
B7A8P-1-AA		(GC8081_S) MBTHOD: 8081A
F2H280172-003	8/23/02	Moisture, Percent (160.3)
E7A8P-1-AC		(%MOIST) METROD: 160.3 MOD
F2H280172-004	8/23/02	Pesticides (8081A)
E7A8T-1-AA		(GC8081_S) MSTHOD: 8081A
P2H280172-004	8/23/02	Moisture, Percent (160.3)
B7A8T-1-AC		(%MOIST) METHOD: 160.3 NOD
F2E260172-005	8/23/02	Pesticides (9081A)
B7A8X-1-AA		(GC8081_S) METHOD: 8081A
F2H280172-005	8/23/02	Mcisture, Percent (160.3)
E7A8X-1-AC		(%MOIST) METHOD: 160.3 NOD

^{*} CONTINUED *

^{**********}

ABORATORY: STL Denver

Severn Trent Laboratories, Inc SAMPLE ANALYSIS REQUISITION

	4955 Yarrow Street Arvada	CO 80002, POW EL	9/02/02 RUSH	
ATTN:				
LAB PURCHASE ORI	DER: SR041469			
CLIENT CODE:	378708 PROJECT	MANAGER: John D. Powell		
NUMBER OF SAI	MPLES IN LOT: 0006			
			~~~~~~~	
SAMPLE I.D.	SAMPLING DATE	ANALYSIS REQUIRED		
F2H280172-006	8/23/02			
E7A81-1-AA		(GC8081_S) METHOD: 8	081A	
F2H280172-006	8/23/02	Moisture, Percent (160.	3)	
E7A81-1-AC	, .	(%MOIST ) METHOD: 1		
			***************************************	
NEED DETECTION	I LIMIT AND ANALYSIS	DATE INCLUDED IN REPORT.		
SHIPPING METHO	DD: CLIENT	DATE: 8/28/03	2	
SEND REPORT TO	; JOHN POWELL			
SAMPLE RECEIVED	) BY:	DATE:	· -	
PLEASE SEND A S	SIGNED COPY OF THIS .	FORM WITH REPORT AT COMPLI	STION OF ANALYSIS.	
THANK YOU.				
	STL St. Lou			
		INT:	8/28/02 16:28:19	
	STL Dei			
	Arvada	arrow Street CO 8000	2, POW EL	
	7.2 ( 3.3.3		,	
Red	Λ		1420	
• • •	. Obrano	DATE/TIME:	8/28/02 1303	/coc ~
RELINQUISHED BY	9000	DATE/TIME:	<u> </u>	\$600 \$/27/02
RELINQUISHED BY	?:	DATE/TIME:	8/28/02 HOO	ر مون المان
RECEIVED FOR LA	AB BY:	DATE/TIME:		
E	LEASE RETURN ORIGINA	<u>AL SAMPLE ANALYSIS REQUISI</u>	TION .	

NEED ANALYTICAL REPORT BY

# STL Denver

36 une 170 De la la la la la la la la la la la la la	
Lot #: 702 H280172 Date/Time Received: 8 28 62-	
Company Name & Sampling Site: STS - SH St Louis	
*Cooler #(s):	
Temperatures (°C): 4.4	
PM to Complete This Section: Yes No Residual chlorine check required:  Time Zone:	<del>-</del>
• EDT/EST • CDT/CST • MDT/MST • PDT/PST • OTHER	
Unpacking & Labeling Check Points:	
N/A Yes No Init	igls
D S D 1. Cooler seals intact. (N/A if hand delivered)	<u></u>
D Q 2. Chain of custody present.	
3. Bottles broken and/or are leaking, comment if yes.	
4. Multiphase samples present? If yes, comment below.	
PHOTOGRAPH BROKEN BOTTLES/MULTIPHASE SAMPLES	
5. Proper container & preservatives used (ref. Attachment D of SOP# DEN-QA-0003)	
18 □ □ 6. pH of all samples checked and meet requirements, note exceptions.	
7. Chain of custody includes "received by" and "relinquished" by signatures, dates, and times.	
8. Receipt date(s) > 48 hours past the collection date(s)? If yes, notify PA/PM.	
9. Chain of custody agrees with bottle count, comment if no.	
3 Il 10. Chain of custody agrees with labels, comment if no.	
9 0 3 11. VOA samples filled completely, comment if no.	
12. VOA vials preserved, check label. Preservative THCl T4±2°C TSodium Thiosulfate	
3 13. Did samples require preservation with sodium thiosulfate?	
□ □ 14. If yes to #12, did the samples contain residual chlorine?	
15. Sediment present in dissolved/filtered bottles.	
16. Are analyses with short holding times requested?	
17. Was a quick Turn Around (TAT) requested?	
□ 18. Is extra sample volume provided for MS, MSD or matrix duplicates?	
DOUBLECHECK METALS, SAMPLE LABELS & SUBCONTRACT	
1	6
20. Were sample labels double-checked by a second person?	2
2 0 21. Were sample bottles and COC double checked for dissolved/filtered metals by a second person?	5
22. If applicable, were AFCEE Metals placed in the walkin refrigerator?	
Document any problems or discrepancies and the actions taken to resolve them on a Condition Upon Receipt Anomic Report (CUR).	aly

VQA\Forms\Sample Receiving\SR Checklist

2/28/02 Revision



L-4124 (0901)		Projec	Mana	iger										Date	,		Chai	in of Custody Nu	ımber
515		Telepi	Zic	<u>a</u>	150	250	13/2	<i>₹</i> ~	<u>u</u>					8/.	26/	<u>07</u>	Ц.,	<u> </u>	747
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STL St. Louis 13715 Rider Trail North Earth City, MO 63045

Tel 314 298 8566 Fax 314 298 8757 www.stl-inc.com

# ANALYTICAL REPORT

Something of

Waste Characterization

Lot #: F2H210313

Rich Berggreen

STS Acquisitions Co. 750 Corporate Woods Parkway Vernon Hills, IL 60061

SEVERN TRENT LABORATORIES, INC.

John D. Powell Project Manager

August 28, 2002

# Case Narrative LOT NUMBER: F2H210313

This report contains the analytical results for the seven samples received under chain of custody by STL St. Louis on August 21, 2002. These samples are associated with your Waste Characterization project.

All applicable quality control procedures met method-specified acceptance criteria except as noted below.

This report is incomplete without the case narrative. All results are based upon sample as received, wet weight, unless noted otherwise.

### Observations/Nonconformances

Reference the chain of custody and condition upon receipt report for any variations on receipt conditions and temperature of samples on receipt.

### **Affected Samples:**

F2H210313 (2): I-16 F2H210313 (4): F-21 F2H210313 (3): I-18 F2H210313 (5): F-14

#### Affected Methods:

A1808

### Case Narrative:

The reporting limit for these samples is elevated due to the presence of interfering, non-target, compounds. The associated sample extracts were yellow to brown in color. Matrix interferences (large peaks) are observed in the sample chromatograms.

# **METHODS SUMMARY**

#### F2H210313

PARAMETER	ANALYTICAL METHOD	PREPARATION METHOD
Organochlorine Pesticides	SW846 8081A	SW846 3550
Percent Moisture	MCAWW 160.3 MOD	MCAWW 160.3 MOD

#### References:

MCAWW "Methods for Chemical Analysis of Water and Wastes", EPA-600/4-79-020, March 1983 and subsequent revisions.

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

# SAMPLE SUMMARY

#### P2H210313

10 #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
E60KE	002	I-16	08/20/02	10:4
E60KP	003	I-18	08/20/02	
E60KG	004	F-21	08/20/02	13:40
E60KH	005	F-14	08/20/02	13:20
E60KJ	006	F-16	08/20/02	13:00
E60KK	007	F-18	08/20/02	13:10

### HOTE(S):

- The analytical results of the number limit above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were any desected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis; color, corrosivity, density, flashpoint, ignitability, layers, older, passe filter test, pHI, portesity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

Client Sample ID: I-16

### GC Semivolatiles

Lot-Sample #: F2H210313-002	Work Order #: E60KE1AA	Matrix: SOLID
Date Sampled: 08/20/02 10:45	Date Received: 08/21/02	
Prep Date: 08/22/02	Analysis Date: 08/26/02	

Prep Batch #...: 2234216

Analysis Time..: 19:13

Dilution Factor: 5 * Moisture....: 16

Method.....: SW846 8081A

		REPORTING	
PARAMETER	RESULT	LIMIT	UNITS
Aldrin	ND	10	ug/kg
alpha-BHC	ND	10	ug/kg
beta-BHC	ND	10	ug/kg
delta-BHC	ND	10	ug/kg
gamma-BHC (Lindane)	ND	10	ug/kg
Chlordane (technical)	68 J, COL	100	ug/kg
4,4'-DDD	ND	10	ug/kg
4,4°-DDE	6.8 J	10	ug/kg
4,4'-DDT	ND	10	ug/kg
Dieldrin	5.0 J	10	ug/kg
Endrin	4.0 J	10	ug/kg
Endrin aldehyde	ND	10	u <b>g/k</b> g
Endosulfan I	ND	10	ug/kg
Endosulfan II	ND	10	ug/kg
Endosulfan sulfate	ND	10	ug/kg
Heptachlor	3.7 J	10	ug/kg
Heptachlor epoxide	ND	40	ug/kg
Methoxychlor	ND	20	ug/kg
Toxaphene	ND	1000	ug/kg
	PERCENT	RECOVERY	
SURROGATE	RECOVERY	LIMITS	_
Decachlorobiphenyl	0.0 DIL,NC	(50 - 151)	)
Tetrachloro-m-xylene	0.0 DIL,NC	(64 - 131)	•

#### NOTE(S):

Results and reporting limits have been adjusted for dry weight.

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

NC The recovery and/or RPD were not calculated.

I Estimated result. Result is less than RL.

COL More than 40% difference between primary and confirmation column results. The lower of the two results is reported.

Client Sample ID: I-16

### General Chemistry

Lot-Sample #...: F2H210313-002 Work Order #...: E60KE
Date Sampled...: 08/20/02 10:45 Date Received..: 08/21/02 Matrix....: SOLID

* Moisture....: 16

PREPARATION-PREP METHOD RL UNITS ANALYSIS DATE BATCH # RESULT PARAMETER 0.10 Percent Moisture 15.6 NCARW 160.3 MOD 08/27/02 2239419

Dilution Factor: 1 Analysis Time..: 15:15

# Client Sample ID: I-18

#### GC Semivolatiles

Lot-Sample #...: F2H210313-003 Work Order #...: E60KF1AA Matrix.....: SOLID

 Date Sampled...:
 08/20/02
 11:00
 Date Received...:
 08/21/02

 Prep Date.....:
 08/22/02
 Analysis Date...:
 08/26/02

 Prep Batch #...:
 2234216
 Analysis Time...:
 19:42

Dilution Factor: 5

* Moisture....: 7.7 Method.....: SW846 8081A

		REPORTING	
PARAMETER	RESULT	LIMIT	UNITS
Aldrin	ND	9.2	ug/kg
alpha-BHC	ND	9.2	ug/kg
beta-BHC	ND	9.2	ug/kg
delta-BHC	ND	9.2	ug/kg
gamma-BHC (Lindane)	ND	9.2	ug/kg
Chlordane (technical)	ND	92	ug/kg
4,4'-DDD	ND	9.2	ug/kg
4,4'-DDE	7.2 J,COL	9.2	ug/kg
4,4'-DDT	ND	9.2	ug/kg
Dieldrin	ND	9.2	ug/kg
Endrin	ND	9.2	ug/kg
Endrin aldehyde	ND	9.2	ug/kg
Endosulfan I	ND	9.2	ug/kg
Endosulfan II	ND	9.2	ug/kg
Endosulfan sulfate	ND	9.2	ug/kg
Heptachlor	ND	9.2	ug/kg
Heptachlor epoxide	ND	36	ug/kg
Methoxychlor	ND	18	ug/kg
Toxaphene	ND	920	ug/kg
	PERCENT	RECOVERY	
SURROGATE	RECOVERY	LIMITS	<del></del>
Decachlorobiphenyl	0.0 DIL,NC	(50 - 15	1)
Tetrachloro-m-xylene	0.0 DIL,NC	(64 - 13	1)

# NOTE (S):

LOT# F2H210313

7

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

NC The recovery and/or RPD were not calculated.

Results and reporting limits have been adjusted for dry weight.

J Estimated result. Result is less than RL.

COL More than 40% difference between primary and confirmation column results. The lower of the two results is reported.

# Client Sample ID: I-18

### General Chemistry

Lot-Sample #...: F2H210313-003 Work Order #...: E60KF Matrix.....: SOLID

Date Sampled...: 08/20/02 11:00 Date Received..: 08/21/02

* Moisture....: 7.7

 PARAMETER
 RESULT
 RL
 UNITS
 METHOD
 ANALYSIS DATE
 BATCH #

 Percent Moisture
 7.7
 0.10
 %
 MCARW 160.3 MOD
 08/27/02
 2239419

Dilution Factor: 1 Analysis Time..: 15:15

# Client Sample ID: F-21

# GC Semivolatiles

Lot-Sample #:	F2H210313-004	Work Order #:	E60KG1AA	Matrix: SOLID
Date Sampled:			08/21/02	

Prep Date....: 08/22/02 Analysis Date..: 08/26/02 Prep Batch #...: 2234216 Analysis Time..: 20:11

Dilution Factor: 5

* Moisture....: 19 Method....: SW846 8081A

PARAMETER	RESULT	REPORTIN LIMIT	UNITS
Aldrin	ND ND	11	ug/kg
alpha-BHC	ND	11	ug/kg
beta-BHC	ND	11	ug/kg
delta-BHC	ND	11	ug/kg
gamma-BHC (Lindane)	ND	11	ug/kg
Chlordane (technical)	ND	110	ug/kg
4,4'-DDD	5.9 J	11	ug/kg
4,4'-DDE	ND	11	ug/kg
4,4'-DDT	ND	11	ug/kg
Dieldrin	ND	11	ug/kg
Endrin	ND	11	ug/kg
Endrin aldehyde	ND	11	ug/kg
Endosulfan I	4.2 J	11	ug/kg
Endosulfan II	ND	11	ug/kg
Endosulfan sulfate	ND	11	ug/kg
Heptachlor	ND	11	ug/kg
Heptachlor epoxide	5.2 J,COL	42	ug/kg
Methoxychlor	ND	20	ug/kg
Toxaphene	ND	1100	ug/kg
	PERCENT	RECOVERY	•
SURROGATE	RECOVERY	LIMITS	
Decachlorobiphenyl	0.0 DIL,NC	(50 - 15	1)
Tetrachloro-m-xylene	0.0 DIL,NC	(64 - 13	1)

#### NOTE(S):

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analyses.

NC The recovery and/or RPD were not calculated.

Results and reporting limits have been adjusted for dry weight.

J Estimated result. Result is less than RL.

COL More than 40% difference between primary and confirmation column results. The lower of the two results is reported.

# Client Sample ID: F-21

### General Chemistry

Lot-Sample #...: P2H210313-004 Work Order #...: E60KG Matrix.....: SOLID

Date Sampled...: 08/20/02 13:40 Date Received..: 08/21/02

* Moisture....: 19

 PARAMETER
 RESULT
 RL
 UNITS
 METHOD
 ANALYSIS
 DATE
 BATCH #

 Percent Moisture
 19.3
 0.10
 %
 MCANW 160.3 MOD
 08/27/02
 2239419

Dilution Pactor: 1

Analysis Time..: 15:15

# Client Sample ID: F-14

#### GC Semivolatiles

Lot-Sample #:	F2H210313-005	Work Order #: E601	KH1AA Matrix SOL:	ID
Date Sampled:	08/20/02 13:20	Date Received: 08/	21/02	
Dren Date	09/22/02	Amplysia Date . 09/	26/02	

 Prep Date....:
 08/22/02
 Analysis Date..:
 08/26/02

 Prep Batch #...:
 2234216
 Analysis Time..:
 20:40

Dilution Factor: 5

**% Moisture....:** 17 Method.....: SW846 8081A

		REPORTING	
PARAMETER	RESULT	LIMIT	UNITS
Aldrin	ND	10	ug/kg
alpha-BHC	ND	10	ug/kg
beta-BHC	ND	10	ug/kg
delta-BHC	ND	10	ug/kg
gamma-BHC (Lindane)	ND	10	ug/kg
Chlordane (technical)	ND	100	ug/kg
4,4'-DDD	ND	10	ug/kg
4,4'-DDR	3.1 J, COL	10	ug/kg
4,4'-DDT	ND	10	ug/kg
Dieldrin	ND	10	ug/kg
Endrin	9.5 J	10	ug/kg
Endrin aldehyde	ND	10	ug/kg
Endosulfan I	3.6 J	10	ug/kg
Endosulfan II	ND	10	ug/kg
Endosulfan sulfate	ND	10	ug/kg
Heptachlor	ND	10	ug/kg
Heptachlor epoxide	4.6 J	40	ug/kg
Methoxychlor	ND	20	ug/kg
Toxaphene	ND	1000	ug/kg
	PERCENT	RECOVERY	•
SURROGATE	RECOVERY	LIMITS	_
Decachlorobiphenyl	0.0 DIL,NC	(50 - 151)	
Tetrachloro-m-xylene	0.0 DIL,NC	(64 - 131)	

#### NOTE (S):

LOT# F2H210313 11

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

NC The recovery and/or RPD were not calculated.

Results and reporting limits have been adjusted for dry weight.

J Estimated result. Result is less than RL.

COL More than 40% difference between primary and confirmation column results. The lower of the two results is reported.

# Client Sample ID: F-14

### General Chemistry

Lot-Sample #...: F2H210313-005 Work Order #...: B60KH Matrix.....: SOLID

Date Sampled...: 08/20/02 13:20 Date Received..: 08/21/02

* Moisture....: 17

 PARAMETER
 RESULT
 RL
 UNITS
 METHOD
 ANALYSIS DATE
 BATCH #

 Percent Moisture
 17.0
 0.10
 %
 MCARW 160.3 MOD
 08/27/02
 2239419

Dilution Factor: 1 Analysis Time..: 15:15

# Client Sample ID: F-16

#### GC Semivolatiles

Lot-Sample #...: F2H210313-006 Work Order #...: E60KJ1AA Matrix.....: SOLID

DEPORTE

 Date Sampled...:
 08/20/02
 13:00
 Date Received...:
 08/21/02

 Prep Date....:
 08/22/02
 Analysis Date...:
 08/26/02

 Prep Batch #...:
 2234216
 Analysis Time...:
 21:09

Dilution Factor: 1

* Moisture....: 15 Method.....: SW846 8081A

		REPORTING	
PARAMETER	RESULT	LIMIT	UNITS
Aldrin	ND	2.0	ug/kg
alpha-BHC	0.59 J,COL	2.0	ug/kg
beta-BHC	ND	2.0	ug/kg
delta-BHC	ND	2.0	ug/kg
gamma-BHC (Lindane)	ND	2.0	ug/kg
Chlordane (technical)	ND	20	ug/kg
4,4'-DDD	ND	2.0	ug/kg
4,4'-DDR	1.0 J	2.0	ug/kg
4,4'-DDT	ND	2.0	ug/kg
Dieldrin	ND	2.0	ug/kg
Endrin	ND	2.0	ug/kg
Endrin aldehyde	ND	2.0	ug/kg
Kndosulfan I	0.73 J,COL	2.0	ug/kg
Endosulfan II	ND	2.0	ug/kg
Endosulfan sulfate	ND	2.0	ug/kg
Heptachlor	ND	2.0	ug/kg
Heptachlor epoxide	ND	7.8	ug/kg
Methoxychlor	ND	3.9	ug/kg
Toxaphene	ND	200	ug/kg
	PERCENT	RECOVERY	
SURROGATE	RECOVERY	LIMITS	
Decachlorobiphenyl	70	(50 - 151)	-
Tetrachloro-m-xylene	88	(64 - 131)	

#### NOTE(S):

Results and reporting limits have been adjusted for dry weight.

LOT# F2H210313

13

J Estimated result. Result is less than RL.

COL More than 40% difference between primary and confirmation column results. The lower of the two results is reported.

Client Sample ID: F-16

### General Chemistry

Lot-Sample #...: F2H210313-006 Work Order #...: E60KJ Matrix.....: SOLID

Date Sampled...: 08/20/02 13:00 Date Received..: 08/21/02

* Moisture....: 15

 PARAMETER
 RESULT
 RL
 UNITS
 METHOD
 ANALYSIS
 DATE
 BATCH #

 Percent Moisture
 14.6
 0.10
 %
 MCANW 160.3 MOD
 08/27/02
 2239419

Dilution Factor: 1 Analysis Time..: 15:15

### Client Sample ID: F-18

#### GC Semivolatiles

Lot-Sample #...: F2H210313-007 Work Order #...: E60KK1AA Matrix.....: SOLID

 Date Sampled...:
 08/20/02
 13:10
 Date Received...:
 08/21/02

 Prep Date.....:
 08/22/02
 Analysis Date...:
 08/26/02

 Prep Batch #...:
 2234216
 Analysis Time...:
 21:39

Dilution Factor: 1

* Moisture....: 17 Method.....: SW846 8081A

		REPORTIN	iG
PARAMETER	RESULT	LIMIT	UNITS
Aldrin	1.0 J	2.1	ug/kg
alpha-BHC	ND	2.1	ug/kg
beta-BHC	ND	2.1	ug/kg
delta-BHC	ND	2.1	ug/kg
gamma-BHC (Lindane)	ND	2.1	ug/kg
Chlordane (technical)	ND	21	ug/kg
4,4'-DDD	ND	2.1	ug/kg
4,4'-DDE	ND	2.1	ug/kg
4,4'-DDT	ND	2.1	ug/kg
Dieldrin	ND	2.1	ug/kg
Endrin	ND	2.1	ug/kg
Endrin aldehyde	ND	2.1	ug/kg
Endosulfan I	0.71 J,COL	2.1	ug/kg
Endosulfan II	ND	2.1	ug/kg
Endosulfan sulfate	ND	2.1	ug/kg
Heptachlor	ND	2.1	ug/kg
Heptachlor epoxide	ND	8.1	ug/kg
Methoxychlor	ND	4.0	ug/kg
Toxaphene	ND	210	ug/kg
	PERCENT	RECOVERY	•
SURROGATE	RECOVERY	LIMITS	<del></del>
Decachlorobiphenyl	<b>7</b> 7	(50 - 15	1)
Tetrachloro-m-xylene	97	(64 - 13	1)

#### NOTE(S):

Results and reporting limits have been adjusted for dry weight.

LOT# F2H210313 15

J Estimated result. Result is less than RL.

COL More than 40% difference between primary and confirmation column results. The lower of the two results is reported.

#### STS ACQUISITIONS CO. dba STS CONS., LTD.

#### Client Sample ID: F-18

#### General Chemistry

Lot-Sample #...: P2H210313-007 Work Order #...: E60KK
Date Sampled...: 08/20/02 13:10 Date Received..: 08/21/02 Matrix....: SOLID

* Moisture....: 17

PREPARATION-PREP WETHOD PARAMETER RESULT RL UNITS ANALYSIS DATE BATCH # 0.10 Percent Moisture 17.5 MCANW 160.3 MOD 08/27/02 2239419

Dilution Pactor: 1 Analysis Time..: 15:15

LOT# F2H210313 1

# METHOD BLANK REPORT

# GC Semivolatiles

Client Lot #...: F2H210313 Work Order #...: E61LW1AA Matrix.....: SOLID

MB Lot-Sample #: D2H220000-216

Prep Date....: 08/22/02 Analysis Time..: 17:16

Dilution Factor: 1

REPORTING

PARAMETER	RESULT	LIMIT	UNITS	METHOD
Aldrin	ND	1.7	ug/kg	SW846 8081A
alpha-BHC	ИD	1.7	ug/kg	SW846 8081A
beta-BHC	ND	1.7	ug/kg	SW846 8081A
delta-BHC	ND	1.7	ug/kg	SW846 8081A
gamma-BHC (Lindane)	ND	1.7	ug/kg	SW846 8081A
Chlordane (technical)	ND	17	ug/kg	SW846 8081A
4,4'-DDD	ND	1.7	ug/kg	SW846 8081A
4,4'-DDE	ND	1.7	ug/kg	SW846 8081A
4,4'-DDT	ND	1.7	ug/kg	SW846 8081A
Dieldrin	ND	1.7	ug/kg	SW846 8081A
Endrin	ND	1.7	ug/kg	SW846 8081A
Endrin aldehyde	ND	1.7	ug/kg	SW846 8081A
Endosulfan I	ND	1.7	ug/kg	SW846 8081A
Endosulfan II	ND	1.7	ug/kg	SW846 8081A
Endosulfan sulfate	ND	1.7	ug/kg	SW846 8081A
Heptachlor	ND	1.7	ug/kg	SW846 8081A
Heptachlor epoxide	ND	6.7	ug/kg	SW846 8081A
Methoxychlor	ND	3.3	ug/kg	SW846 8081A
Toxaphene	ND	170	ug/kg	SW846 8081A
	PERCENT	RECOVERY		
SURROGATE	RECOVERY	LIMITS		
Decachlorobiphenyl	99	(50 - 151	•	
Tetrachloro-m-xylene	100	(64 - 131	.)	

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LOT# F2H210313 17

# LABORATORY CONTROL SAMPLE EVALUATION REPORT

# GC Semivolatiles

Client Lot #...: P2H210313 Work Order #...: E61LW1AC Matrix.....: SOLID

LCS Lot-Sample#: D2H220000-216

 Prep Date....: 08/22/02
 Analysis Date..: 08/26/02

 Prep Batch #...: 2234216
 Analysis Time..: 14:49

Dilution Pactor: 1

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD
Aldrin	93	(72 - 129)	SW846 8081A
gamma-BBC (Lindane)	92	(69 - 131)	SW846 8081A
4,4'-DDT	87	(65 - 150)	SW846 8081A
Dieldrin	92	(73 - 133)	SW846 8081A
Endrin	96	(70 - 137)	SW846 8081A
Heptachlor	98	(63 - 146)	SW846 8081A
		PERCENT	RECOVERY
SURROGATE		RECOVERY	LIMITS
Decachlorobiphenyl		94	(50 - 151)
Tetrachloro-m-xylene		102	(64 - 131)

# BOTE (S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold prim denotes control parameters

LOT# F2H210313

# MATRIX SPIKE SAMPLE EVALUATION REPORT

#### GC Semivolatiles

Client Lot #...: F2H210313 Work Order #...: E6VCA1AD-MS Matrix.....: SOLID

MS Lot-Sample #: F2H200218-001 E6VCALAE-MSD

 Date Sampled...:
 08/19/02
 14:00
 Date Received...:
 08/20/02

 Prep Date....:
 08/22/02
 Analysis Date...:
 08/27/02

 Prep Batch #...:
 2234216
 Analysis Time...:
 17:45

 Dilution Factor:
 50
 Moisture....:
 9.6

	PERCENT	RECOVERY		RPD			
PARAMETER	RECOVERY	LIMITS	RPD	LIMITS	METHO	)	
Aldrin	NC, DIL	(72 - 129)			SW846	8081A	
	NC, DIL	(72 - 129)		(0-30)	SW846	8081A	
gamma-BHC (Lindane)	NC, DIL	(69 - 131)			SW846	8081A	
	NC, DIL	(69 - 131)		(0-30)	SW846	8081A	
4,4'-DDT	NC, DIL	(65 - 150)			<b>SW84</b> 6	8081A	
	NC, DIL	(65 - 150)		(0-30)	SW846	8081 <b>A</b>	
Dieldrin	NC, DIL	(73 - 133)			SW846	8081A	
	NC, DIL	(73 - 133)		(0-30)	SW846	8081A	
Endrin	MC, DIL	(70 - 137)			SW846	8081A	
	MC, DIL	(70 - 137)		(0-30)	SW846	8081A	
Heptachlor	MC, DIL	(63 - 146)			SW846	8081A	
	NC, DIL	(63 - 146)		(0-30)	SW846	8081A	
		PERCENT		RECOVERY			
SURROGATE		RECOVERY		LIMITS			
Decachlorobiphenyl		0.0		(50 - 15	1)		
	Qualifi	lers: DIL,NC					
		0.0		(50 - 15	1)		
	Qualifi	lers: DIL,NC					
Tetrachloro-m-xylene		0.0		(64 - 13	1)		
	Qualifi	iers: DIL,NC					
		0.0		(64 - 13	1)		
	Qualifi	lers: DIL,NC					

# NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

NC The recovery and/or RPD were not calculated.

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

19

#### STL ST. LOUIS

PSL20300

SEVERN TRENT LABORATCRIES, INC Rum Date: 8/21/02
CLIENT ANALYSIS SUMMARY Time: 16:00:36
STL St. Louis User Id.: WILSONS PSL20300 Page 1

CLIENT: 378708 STS ACQUISITIONS CO. dba STS CONS., LTD. QUOTE/SAR #: 43710 LAB ID: F-2H210313-001 PROJECT MANAGER: John D. Powell

WORK ORDER: E60KD PROJECT #:

Rich Berggreen RECEIVING DATE: 8/21/02 REPORT TO: P.C. NUMBER: SAMPLING DATE: 8/20/02 SITE: Waste Characterization ANALYTICAL DUE DATE: 8/28/02N

REPORT DUE DATE: 8/28/02 AMOUNT REC*D: 120G STORAGE LOC: S7 PRIORITY: 07

LOT COMMENTS: SAMPLING TIME: 10:27 RECEIVING TIME: 9:45 MATRIX: SOLID

USAF MATRIX: SAMPLE ID: J-16

QC PACKAGE: Report SDG# :

SAMPLE COMMENTS:

Beginning Depth: .00 Ending Depth: .00

WRK REQUEST EXTRACTION ANALYSIS ***** ANALYSIS ***** LOC DATE EXP DATE EXP DATE

06 8/21/02 0/00/00 11/27/02

NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION

(A-88-ZZ-01) E60KD-1-AA Protocol: Z QC Program: STANDARD TEST SET

PSL20300 Page 1 SEVERN TRENT LABORATORIES, INC
CLIENT ANALYSIS SUMMARY

STL St. Louis

Run Date: 8/21/02 Time: 16:00:36

Time: 16:00:36 User Id.: WILSONS

CLIENT: 378708 STS ACQUISITIONS CO. dba STS CONS., LTD. QUOTE/SAR #: 43710 PROJECT MANAGER: John D. Powell

LAB ID: F-2H210313-002

WORK ORDER: E60KE PROJECT #:

Rich Berggreen REPORT TO: RECEIVING DATE: 8/21/02

SAMPLING DATE: 8/20/02 P.O. NUMBER: ANALYTICAL DUE DATE: 8/28/02N SITE: Waste Characterization

AMOUNT REC"D: 120G REPORT DUE DATE: 8/28/02

STORAGE LOC: STLDENVER PRIORITY: 07

LOT COMMENTS: SAMPLING TIME: 10:45 9:45 MATRIX: SOLID RECEIVING TIME:

USAF MATRIX: SAMPLE ID: I-16

QC PACKAGE: Report SDG# :

SAMPLE COMMENTS:

.00 Beginning Depth: .00 Ending Depth:

WRK REQUEST EXTRACTION ANALYSIS ***** ANALYSIS ***** <u>LOC</u> DATE EXP DATE EXP DATE 04 8/21/02 9/03/02 10/13/02

Pesticides (8081A) SONICATION - Low Level

Q: SW846 Method 8081A Standard List

'A-13-QJ-01) E60KE-1-AA Protocol: A QC Program: STANDARD TEST SET

Moisture, Percent (160.3) 04 8/21/02 0/00/00 11/27/02

NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION

(A-88-WM-01) E60KE-1-AC Protocol: A QC Program: STANDARD TEST SET

PSL20300 PSL20300 Page 1 SEVERN TRENT LABORATORIES, INC Run Date: 8/21/02
CLIENT ANALYSIS SUMMARY Time: 16:00:37
STL St. Louis User Id.: WILSONS

Time: 16:00:37

CLIENT: 378708 STS ACQUISITIONS CO. dba STS CONS., LTD. QUOTE/SAR #: 43710

LAB ID: F-2H210313-003 PROJECT MANAGER: John D. Powell

PROJECT #: WORK ORDER: B60KF

Rich Berggreen RECEIVING DATE: 8/21/02 REPORT TO: P.O. NUMBER: SAMPLING DATE: 8/20/02

SITE: Waste Characterization ANALYTICAL DUE DATE: 8/28/02N

REPORT DUE DATE: 8/28/02 AMOUNT REC*D: 120G

STORAGE LOC: STLDENVER PRIORITY: 07

SAMPLING TIME: 11:00 LCT COMMENTS: MATRIX: SOLID RECEIVING TIME: 9:45

USAF MATRIX: SAMPLE ID: I-15

QC PACKAGE: Report SDG# :

SAMPLE COMMENTS:

Beginning Depth: .00 Ending Depth: .00

WRK REQUEST EXTRACTION ANALYSIS ***** ANALYSIS ***** DATE EXP DATE EXP DATE  $\overline{r}$ 

04 8/21/02 9/03/02 10/13/02 Pesticides (8081A)

SCNICATION - Low Level

Q: SW846 Method 8081A Standard List

(A-13-QJ-01) E60KF-1-AA Protocol: A QC Program: STANDARD TEST SET

Moisture, Percent (160.3) 04 8/21/02 0/00/00 11/27/02

NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION

(A-88-WM-01) E60KF-1-AC Protocol: A QC Program: STANDARD TEST SET

PSL20300 Page 1 SEVERN TRENT LABORATORIES, INC

CLIENT ANALYSIS SUMMARY

STL St. Louis

Run Date: 8/21/02 Time: 16:00:37

User Id.: WILSONS

CLIENT: 378708 STS ACQUISITIONS CO. dba STS CONS., LTD. QUOTE/SAR #: 43710

PROJECT MANAGER: John D. Powell LAB ID: F-2H210313-004

PROJECT #: WORK ORDER: E60KG

REPORT TO: Rich Berggreen RECEIVING DATE: 8/21/02

P.O. NUMBER: SAMPLING DATE: 8/20/02

SITE: Waste Characterization ANALYTICAL DUE DATE: 8/28/02N AMOUNT REC"D: 120G REPORT DUE DATE: 8/28/02

STORAGE LOC: STLDENVER PRIORITY: 07

LOT COMMENTS: SAMPLING TIME: 13:40
MATRIX: SOLID RECEIVING TIME: 9:45

USAF MATRIX:

SAMPLE ID: F-21
QC PACKAGE: Report SDG#:

SAMPLE COMMENTS:

Beginning Depth: .00 Ending Depth: .00

WRK REQUEST EXTRACTION ANALYSIS

***** ANALYSIS *****

LOC DATE EXP DATE

EXP DATE

Pesticides (8081A) 04 8/21/02 9/03/02 10/13/02

SONICATION - Low Level

Q: SW846 Method 8081A Standard List

'A-13-QJ-01) E60KG-1-AA Protocol: A QC Program: STANDARD TEST SET

Moisture, Percent (160.3) 04 8/21/02 0/00/00 11/27/02

NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION

(A-88-WM-01) E60KG-1-AC Protocol: A QC Program: STANDARD TEST SET

#### STL ST. LOUIS

ا00ء0عتاد۔ Page 1 PSL20300

SEVERN TRENT LABORATORIES, INC Run Date: 8/21/02
CLIENT ANALYSIS SUMMARY Time: 16:00:37
STL St. Louis User Id.: WILSONS

CLIENT: 378768 STS ACQUISITIONS CO. dba STS CONS., LTD. QUOTE/SAR #: 43710

PROJECT MANAGER: John D. Powell LAB ID: F-2H210313-005

WORK ORDER: E60KH PROJECT #:

Rich Berggreen RECEIVING DATE: 8/21/02 REPORT TO:

SAMPLING DATE: 8/20/02 P.O. NUMBER: ANALYTICAL DUE DATE: 8/28/02N

SITE: Waste Characterization REPORT DUE DATE: 8/28/02 AMOUNT REC*D: 120G

STORAGE LOC: STLDENVER PRIORITY: 07

SAMPLING TIME: 13:20 LOT COMMENTS: RECEIVING TIME: 9:45

MATRIX: SOLID USAF MATRIX: SAMPLE ID: F-14

QC PACKAGE: Report SDG# :

SAMPLE COMMENTS:

Beginning Depth: .00 Ending Depth: .00

WRK REQUEST EXTRACTION ANALYSIS ***** ANALYSIS ***** LOC DATE EXP DATE EXP DATE

C4 8/21/02 9/03/02 10/13/02 Pesticides (8081A)

SONICATION - Low Level

Q: 5W846 Method 8081A Standard List

(A-13-QJ-01) E60KH-1-AA Protocol: A QC Program: STANDARD TEST SET

04 8/21/02 0/00/00 11/27/02 Moisture, Percent (160.3)

NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION

(A-88-WM-01) E60KH-1-AC Protocol: A QC Program: STANDARD TEST SET

PSL20300 Page 1 SEVERN TRENT LABORATORIES, INC
CLIENT ANALYSIS SUMMARY
STL St. Louis
Run Date: 8/21/02
Time: 16:00:37
User Id.: WILSONS

CLIENT: 378708 STS ACQUISITIONS CO. dba STS CONS., LTD. QUOTE/SAR #: 43710

LAB ID: F-2H210313-006 PROJECT MANAGER: John D. Powell

WORK ORDER: E60KJ PROJECT #:

REPORT TO: Rich Berggreen RECEIVING DATE: 8/21/02

SAMPLING DATE: 8/20/02 P.O. NUMBER:

ANALYTICAL DUE DATE: 8/28/02N SITE: Waste Characterization

REPORT DUE DATE: 8/28/02 AMOUNT REC"D: 120G

STORAGE LOC: STLDENVER PRIORITY: 07

SAMPLING TIME: 13:00 LOT COMMENTS: RECEIVING TIME: 9:45 MATRIX: SOLID

USAF MATRIX:

SAMPLE ID: F-16

QC PACKAGE: Report SDG# :

SAMPLE COMMENTS:

Beginning Depth: .00 Ending Depth: .00

> WRK REQUEST EXTRACTION ANALYSIS ***** ANALYSIS ***** EXP DATE EXP DATE TOC DATE 04 8/21/02 9/03/02 10/13/02

Pesticides (8081A) SONICATION - Low Level

O: SW846 Method 8081A Standard List

(A-13-QJ-01) E60KJ-1-AA Protocol: A QC Program: STANDARD TEST SET

04 8/21/02 0/00/00 11/27/02 Moisture, Percent (160.3)

NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION

(A-88-WM-01) E60KJ-1-AC Protocol: A QC Program: STANDARD TEST SET

#### STL ST. LOUIS

PSL20300 SEVERN TRENT LABORATORIES, INC Run Date: 8/21/02
Page 1 CLIENT ANALYSIS SUMMARY Time: 16:00:37
STL St. Louis User Id.: WILSONS

CLIENT: 378708 STS ACQUISITIONS CO. dba STS CCNS., LTD. QUOTE/SAR #: 43710

LAB ID: F-2H210313-007 PROJECT MANAGER: John D. Powell

PROJECT #:

WORK ORDER: E60KK

Rich Berggreen REPORT TO: RECEIVING DATE: 8/21/02

SAMPLING DATE: 8/20/02 P.O. NUMBER:

SITE: Waste Characterization ANALYTICAL DUE DATE: 8/28/02N

AMOUNT REC"D: 120G REPORT DUE DATE: 8/28/02

STORAGE LOC: STLDENVER PRICRITY: 07

LOT COMMENTS: SAMPLING TIME: 13:10 9:45 MATRIX: SOLID RECEIVING TIME:

USAF MATRIX: SAMPLE ID: F-18

OC PACKAGE: Report SDG# :

SAMPLE COMMENTS:

Beginning Depth: .00 Ending Depth: .00

WRK REQUEST EXTRACTION ANALYSIS
LOC DATE EXP DATE EXP DATE ***** ANALYSIS *****

04 8/21/02 9/03/02 10/13/02 Pesticides (8081A)

SONICATION - Low Level

Q: SW846 Method 8081A Standard List

(A-13-QJ-01) E60KK-1-AA Protocol: A QC Program: STANDARD TEST SET

04 8/21/02 0/00/00 11/27/02 Moisture, Percent (160.3)

NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION

(A-88-WM-01) B60KK-1-AC Protocol: A QC Program: STANDARD TEST SET

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Severn Trent Laboratories, Inc.

Client (0901)		Project	Manag	er					<u> </u>						D	ate "	ŹŦ			Ch	ain of Cus	tody N	umber	
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City State Zip  VET Norm H-7/ T2 L  Project Name and Location (State)	Code	Site Co	Site Contact Lab			b Con				T				Analysis (Attach list if				<del>-3-</del>						
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Contract/Purchase Order/Quote No.		] - 6	UC.			77/			ainer		一」 <i>;</i>	χ									Spe Con	cial i ditioi	Instructions of Rec	ns/ eipt
25,585 KI	·			Matri	X				ervati															•
Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	ją.	Sed.	Soil	Unpres	H2SO4	HINO3	ğ	Na OH	·	fosi.e									Sw	74L	. 8°2	8/
J-16	8/20/02 /	10127			1							<	7/1	42	0	2	120	4			PES.			
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Possible Hazard Identification	L			ple Di	•									1				fee m	av be a	assesse	d if sample	es are	retained	····
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant Turn Around Time Required	Poison B	Unknown		Return	To Cli	ent			al By ireme	Lab nts (Spe	A	chive	For .			Mont			nan 1 m					
☐ 24 Hours ☐ 48 Hours ☐ Z Days ☐ 14 Da	ays 🔲 21 Days	□ o#	ner																•					
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2. Relinquished By	<del></del>	Date	- v - <u>«</u>	. Tir	ne	•	2. A	ecelv	ed By	<u> </u>	Δ	P	#V	נעע	<i>.</i>					1	Date	<u> </u>	Time	
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Comments							1										<del></del>						L	<del></del>

# Powell, John

From: Kornder, Steve [Kornder@stsconsultants.com]

Sent: Wednesday, August 21, 2002 10:15 AM

To: Powell, John

Subject: Pesticide Samples

#### Morning John,

The lab should receive seven samples from STS this morning for pesticide analysis. One of those samples (J16) was mistakenly sent and should not be analyzed. Please delete this sample from your analysis log.

As always, any information yet on when we might be able to expect results on the samples (a total of eight) that are currently at the lab.

Thanks again,

Steve

ph: (847) 279-2448



Lot No.: F2H2 10313

# Condition Upon Receipt Form St. Louis Laboratory

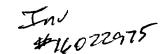
Client:	STS	Date:_	8/21/02 Time: 9:45
	No: 43717)	Initiate	d by: MM7
Shipper	670 0000 U.S.	COC/R	FA Numbers: 147687
Condit	tion/Variance (Circle "Y" for yes and "N" for	r no. If "N" is circled, see	notes for explanation):
1. (	N Sample received in undamaged conditi	ion. 5. (Y)N	Sample volume sufficient for analysis.
2.	N Sample received within 4°C ± 2°C*	6. YN	Sample received with Chain of Custody.
1	Record temperature:	7. (Ŷ) N	Chain of Custody matches sample IDs on containers.
3.	Y N (N/A) Sample received with proper pH**.	8. Y(N	Custody seal received intact and tamper evident on cooler.
4. (	Y) N Sample received in proper containers.	9. 1	Custody seal received intact and tamper evident on bottles.
		_	
	erature Variance Does Not Affect the Following A		TOY TOY TOY
Notes:	DOE-AL (Pantex, LANL, Sandia, Timet) sites, ren	nember to pH all containers	received, except for VOA, TOX, and soils.
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		<u></u>	
		·	
	·		
Correct	ive Action:		
	Client's Name:	Informed verbally on:	Ву:
	Client's Name:	Informed in writing on:	Ву:
	Sample(s) processed "as is".	<del>-</del> :	
	Sample(s) on hold until:		If released, notify:
Sample (	Control Supervisor (or designate) Review:	hosa molnues	Date: 8/21/02
·	Management Review:	Qu	Date: 08-22-02
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SIGNED ORIGINAL MUST BE RETAINED IN THE PROJECT FILE

THIS FORM MUST BE COMPLETED AT THE TIME THE ITEMS ARE BEING CHECKED

IF ANY ITEM IS COMPLETED BY SOMEONE OTHER THAN THE INITIATOR, THEN THAT PERSON IS REQUIRED TO APPLY THEIR

INITIALS AND THE DATE NEXT TO THAT ITEM





**STL St. Louis** 13715 Rider Trail North Earth City, MO 63045

Tel 314 298 8566 Fax 314 298 8757 www.sti-inc.com

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# ANALYTICAL REPORT

Waste Characterization

Lot #: F2H200218

Rich Berggreen

STS Acquisitions Co. 750 Corporate Woods Parkway Vernon Hills, IL 60061

SEVERN TRENT LABORATORIES, INC.

John D. Powell Project Manager

August 28, 2002

# Case Narrative LOT NUMBER: F2H200218

This report contains the analytical results for the two samples received under chain of custody by STL St. Louis on August 20, 2002. These samples are associated with your Waste Characterization project.

All applicable quality control procedures met method-specified acceptance criteria except as noted below.

This report is incomplete without the case narrative. All results are based upon sample as received, wet weight, unless noted otherwise.

# Observations/Nonconformances

Reference the chain of custody and condition upon receipt report for any variations on receipt conditions and temperature of samples on receipt.

# **Affected Samples:**

F2H200218 (1): H-6

#### **Affected Methods:**

8081A

#### Case Narrative:

The reporting limit for sample(s) F2H200218-1 and F2H210313-2, 3, 4, 5 is elevated due to the presence of interfering, non-target, compounds. The associated sample extracts were yellow to brown in color. Matrix interferences (large peaks) are observed in the sample chromatograms.

# **METHODS SUMMARY**

# F2H200218

PARAMETER	METHOD	PREPARATION METHOD
Organochlorine Pesticides	SW846 8081A	SW846 3550
Percent Moisture	MCAWW 160.3 MOD	MCAWW 160.3 MOD

# References:

MCAWW "Methods for Chemical Analysis of Water and Wastes",

EPA-600/4-79-020, March 1983 and subsequent revisions.

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical

Methods", Third Edition, November 1986 and its updates.

# SAMPLE SUMMARY

#### P2H200218

WO #	SAMPLE	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
E6VCA	001	H-6	08/19/02	14:00
E6VCK	002	H-14	08/19/02	14:30

# BOTE(S):

- The analysical results of the samples listed above are presented on the following pages.
- All calculances are performed before rounding to avoid round-off errors in calculated results.
- Results soud as "NO" were not detected at or shove the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, pass filter sest, pH, percenty pressure, reactivity, redox potential, specific gravity, spot tests, solids, solidshiry, temperature, viscosity, and weight.

# STS ACQUISITIONS CO. dba STS CONS., LTD.

# Client Sample ID: H-6

#### GC Semivolatiles

Lot-Sample #:	F2H200218-001	Work Order #:	E6VCA1AA	Matrix: SOLID
Date Sampled:	08/19/02 14:00	Date Received:	08/20/02	
Prep Date:	08/22/02	Analysis Date:	08/27/02	
Prep Batch #:	2234216	Analysis Time:	17:16	

Prep Batch #...: 2234216
Dilution Factor: 50

* Moisture....: 9.6 Method....: SW846 8081A

		REPORTING	
PARAMETER	RESULT	LIMIT	UNITS
Aldrin	49 J	94	ug/kg
alpha-BHC	ND	94	ug/kg
beta-BHC	ND	94	ug/kg
delta-BHC	ND	94	ug/kg
gamma-BHC (Lindane)	ND	94	ug/kg
Chlordane (technical)	13000	940	ug/kg
4,4'-DDD	25 J,COL	94	ug/kg
4,4"-DDB	45 J	94	ug/kg
4,4'-DDT	29 J	94	ug/kg
Dieldrin	51 J	94	ug/kg
Endrin	85 J	94	ug/kg
Endrin aldehyde	ND	94	ug/kg
Endosulfan I	49 J	94	ug/k <del>g</del>
Endosulfan II	ND	94	ug/kg
Endosulfan sulfate	ND	94	ug/kg
Heptachlor	1400	94	ug/kg
Heptachlor epoxide	ND	370	ug/kg
Methoxychlor	ND	180	ug/kg
Toxaphene	ND	9400	ug/kg
	PERCENT	RECOVERY	
SURROGATE	RECOVERY	LIMITS	_
Decachlorobiphenyl	0.0 DIL,NC	(50 - 151)	_
Tetrachloro-m-xylene	0.0 DIL,NC	(64 - 131)	

#### NOTE(S):

LOT# F2H200218

5

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analyses.

NC The recovery and/or RPD were not calculated.

Results and reporting limits have been adjusted for dry weight.

J Estimated result. Result is less than RL.

COL More than 40% difference between primary and confirmation column results. The lower of the two results is reported.

# STS ACQUISITIONS CO. dba STS COMS., LTD.

# Client Sample ID: H-6

# General Chemistry

Matrix....: SOLID Lot-Sample #...: F2H200218-001 Work Order #...: E6VCA

Date Sampled...: 08/19/02 14:00 Date Received..: 08/20/02

* Moisture....: 9.6

PREPARATION- PREP METHOD ANALYSIS DATE BATCH # PARAMETER Percent Moisture 9.6 NCAWW 160.3 MOD 08/26/02 2238529

Dilution Factor: 1 Analysis Time..: 19:30

#### STS ACQUISITIONS CO. dba STS CONS., LTD.

# Client Sample ID: H-14

# GC Semivolatiles

Lot-Sample #:	F2H200218-002	Work Order #:	E6VCKLAA	Matrix:	SOLID
---------------	---------------	---------------	----------	---------	-------

 Date
 Sampled...:
 08/19/02
 14:30
 Date
 Received...:
 08/20/02

 Prep
 Date...:
 08/22/02
 Analysis
 Date...:
 08/26/02

 Prep
 Batch #...:
 2234216
 Analysis
 Time...:
 16:46

Dilution Factor: 1

* Moisture....: 5.4 Method....: SW846 8081A

		REPORTING	
PARAMETER	RESULT	LIMIT	UNITS
Aldrin	ND	1.8	ug/kg
alpha-BHC	ND	1.8	ug/kg
beta-BHC	ND	1.8	ug/kg
delta-BHC	<b>N</b> D	1.8	ug/kg
gamma-BHC (Lindane)	ND	1.8	ug/kg
Chlordane (technical)	ND	18	ug/kg
4,4'-DDD	ND	1.8	ug/kg
4,4'-DDE	ND	1.8	ug/kg
4,4'-DDT	ND	1.8	ug/kg
Dieldrin	ND	1.8	ug/kg
Endrin	ND	1.8	ug/kg
Endrin aldehyde	ND	1.8	ug/kg
Endosulfan I	ND	1.8	ug/kg
Endosulfan II	ND	1.8	ug/kg
Endosulfan sulfate	NID	1.8	ug/kg
Heptachlor	ND	1.8	ug/kg
Heptachlor epoxide	0.70 J,COL	7.1	ug/kg
Methoxychlor	NID	3.5	ug/kg
Toxaphene	ND	180	ug/kg
	PERCENT	RECOVERY	
SURROGATE	RECOVERY	LIMITS	_
Decachlorobiphenyl	100	(50 - 151)	
Tetrachloro-m-xylene	88	(64 - 131)	

#### NOTE(S):

Results and reporting limits have been adjusted for dry weight.

COL More than 40% difference between primary and confirmation column results. The lower of the two results is reported.

LOT# F2H200218

7

J Estimated result, Result is less than RL.

# STS ACQUISITIONS CO. dba STS COMS., LTD.

# Client Sample ID: H-14

# General Chemistry

Lot-Sample #...: F2H200218-002 Work Order #...: E6VCK Matrix.....: SOLID

Date Sampled...: 08/19/02 14:30 Date Received..: 08/20/02

* Moisture....: 5.4

 PARAMETER
 RESULT
 RL
 UNITS
 METHOD
 ANALYSIS
 DATE
 BATCH #

 Percent Moisture
 5.4
 0.10
 \$
 MCANW 160.3 MOD
 08/26/02
 2238529

Dilution Factor: 1 Analysis Time..: 19:30

# METHOD BLANK REPORT

# GC Semivolatiles

Client Lot #...: F2H200218 Work Order #...: E61LW1AA Matrix.....: SOLID

MB Lot-Sample #: D2H220000-216

Prep Date....: 08/22/02 Analysis Time..: 17:16

Dilution Factor: 1

		REPORTING	G	
PARAMETER	RESULT	LIMIT	UNITS	METHOD
Aldrin	ND	1.7	ug/kg	SW846 8081A
alpha-BHC	ND	1.7	ug/kg	SW846 8081A
beta-BHC	ND	1.7	ug/kg	SW846 8081A
delta-BHC	ND	1.7	ug/kg	SW846 8081A
gamma-BHC (Lindane)	ND	1.7	ug/kg	SW846 8081A
Chlordane (technical)	ND	17	ug/kg	SW846 8081A
4,4'-DDD	ND	1.7	ug/kg	SW846 8081A
4,4'-DDE	ND	1.7	ug/kg	SW846 8081A
4,4'-DDT	ND	1.7	ug/kg	SW846 8081A
Dieldrin	ND	1.7	ug/kg	SW846 8081A
Endrin	ND	1.7	ug/kg	SW846 8081A
Endrin aldehyde	ND	1.7	ug/kg	SW846 8081A
Endosulfan I	ND	1.7	ug/kg	SW846 8081A
Endosulfan II	ND	1.7	ug/kg	SW846 8081A
Endosulfan sulfate	ND	1.7	ug/kg	SW846 8081A
Heptachlor	ND	1.7	ug/kg	SW846 8081A
Heptachlor epoxide	ND	6.7	ug/kg	SW846 8081A
Methoxychlor	ND	3.3	ug/kg	SW846 8081A
Toxaphene	ND	170	ug/kg	SW846 8081A
	PERCENT	RECOVERY		
SURROGATE	RECOVERY	LIMITS		
Decachlorobiphenyl	99	(50 - 15	1)	
Tetrachloro-m-xylene	100	(64 - 13)	1)	

NOTE (S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LOT# F2H200218

# LABORATORY CONTROL SAMPLE EVALUATION REPORT

# GC Semivolatiles

Client Lot #...: F2H200218 Work Order #...: E61LW1AC Matrix.....: SOLID

LCS Lot-Sample: D2H220000-216

 Prep Date....: 08/22/02
 Analysis Date..: 08/26/02

 Prep Batch #...: 2234216
 Analysis Time..: 14:49

Dilution Pactor: 1

D3 D3 MOTOD	PERCENT	RECOVERY	MERIOD
PARAMETER	RECOVERY	LIMITS	METHOD
Aldrin	93	(72 - 129)	SW846 8081A
gamma-RHC (Lindane)	92	(69 - 131)	SW846 8081A
4,4'-DDT	87	(65 - 150)	SW846 8081A
Dieldrin	92	(73 - 133)	SW846 8081A
Endrin	96	(70 - 137)	SW846 8081A
<b>Beptachlor</b>	98	(63 - 146)	SW846 8081A
		PERCENT	RECOVERY
SURROGATE		RECOVERY	LIMITS
Decachlorobiphenyl		94	(50 - 151)
Tetrachloro-m-xylene		102	(64 - 131)

#### HOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print densets course personners

LOT# F2H200218

#### MATRIX SPIKE SAMPLE EVALUATION REPORT

#### GC Semivolatiles

Client Lot #...: F2H200218 Work Order #...: E6VCA1AD-MS Matrix.....: SOLID

MS Lot-Sample #: F2H200218-001 E6VCALAE-MSD

 Date Sampled...:
 08/19/02 14:00 Date Received...:
 08/20/02

 Prep Date.....:
 08/22/02 Analysis Date...:
 08/27/02

 Prep Batch #...:
 2234216 Analysis Time...:
 17:45

 Dilution Factor:
 50 & Moisture.....:
 9.6

	PERCENT	RECOVERY		RPD				
PARAMETER	RECOVERY	LIMITS	RPD	LIMITS	METHO	<b>)</b>		
Aldrin	NC, DIL	(72 - 129)			SW846	8081A		
	MC, DIL	(72 - 129)		(0-30)	SW846	8081A		
gamma-BHC (Lindane)	MC, DIL	(69 - 131)			SW846	8081A		
	NC, DIL	(69 - 131)		(0-30)	SW846	8081A		
4,4'-DDT	NC, DIL	(65 - 150)			SW846	8081A		
	NC, DIL	(65 - 150)		(0-30)	SW846	8081A		
Dieldrin	NC, DIL	(73 - 133)			SW846	8081A		
	NC, DIL	(73 - 133)		(0-30)	SW846	8081A		
Endrin	NC, DIL	(70 - 137)			SW846	8081A		
	NC, DIL	(70 - 137)		(0-30)	SW846	8081A		
Heptachlor	MC, DIL	(63 - 146)			SW846	8081A		
	NC, DIL	(63 - 146)		(0-30)	SW846	8081A		
		PERCENT		RECOVERY				
SURROGATE		RECOVERY		LIMITS	_			
Decachlorobiphenyl		0.0		(50 - 151	)			
	Qualifiers: DIL,NC							
		0.0		(50 - 151	)			
	Qualifie	rs: DIL,NC						
Tetrachloro-m-xylene		0.0		(64 - 131	)			
	Qualifie	rs: DIL,NC						
		0.0		(64 - 131	)			
	Qualifie	rs: DIL,NC						

# NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

NC The recovery and/or RPD were not calculated.

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

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PSL20300 Page 1 SEVERN TRENT LABORATORIES, INC
CLIENT ANALYSIS SUMMARY
STL St. Louis
Run Date: 8/21/02
Time: 15:46:27
User Id.: POWELLJ

STL St. Louis

User Id.: POWELLJ

CLIENT: 378708 STS ACQUISITIONS CO. dba STS CONS., LTD. QUOTE/SAR #: 43710 PROJECT MANAGER: John D. Powell LAB ID: F-2H200218-001

PROJECT #:

WORK ORDER: BEVCA

Rich Berggreen RECEIVING DATE: 8/20/02 REPORT TO:

P.O. MUMBER:

SAMPLING DATE: 8/19/02 ANALYTICAL DUE DATE: 8/27/02N

SITE: Waste Characterization AMOUNT REC"D: 120G

REPORT DUE DATE: 8/27/02

STORAGE LOC: R158

PRIORITY: 07

LOT COMMENTS: MATRIX: SOLID

SAMPLING TIME: 14:00 RECEIVING TIME: 8:00

USAF MATRIX: SAMPLE ID: H-6

SDG# :

QC PACKAGE: Report SAMPLE COMMENTS:

Beginning Depth: .00 Ending Depth: .00

WRK REQUEST EXTRACTION ANALYSIS ***** AWALYSIS ***** LOC DATE EXP DATE EXP DATE

04 8/21/02 9/02/02 10/12/02 Pesticides (8081A)

SONICATION - Low Level

Q: SW846 Method 8081A Standard List

(A-13-QJ-01) E6VCA-1-AA Protocol: A QC Program: STANDARD TEST SET

04 8/21/02 0/00/00 11/26/02 Moisture, Percent (160.3)

NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION

(A-88-WM-01) E6VCA-1-AC Protocol: A QC Program: STANDARD TEST SET

PSL20300 Page 1 SEVERN TRENT LABORATORIES, INC CLIENT ANALYSIS SUMMARY

STL St. Louis

Run Date: 8/21/02

Time: 15:46:27 User Id.: POWELLJ

CLIENT: 378708 STS ACQUISITIONS CO. dba STS CONS., LTD. QUOTE/SAR #: 43710

PROJECT MANAGER: John D. Powell LAB ID: F-2H200218-002

PROJECT #: WORK ORDER: E6VCK

REPORT TO: Rich Berggreen RECEIVING DATE: 8/20/02

SAMPLING DATE: 8/19/02 P.O. NUMBER:

ANALYTICAL DUE DATE: 8/27/02N SITE: Waste Characterization

AMOUNT REC"D: 120G REPORT DUE DATE: 8/27/02

PRIORITY: 07 STORAGE LOC: R158

LOT COMMENTS: SAMPLING TIME: 14:30 MATRIX: SOLID RECEIVING TIME: 8:00

USAF MATRIX:

SAMPLE ID: H-14

SDG# : QC PACKAGE: Report

SAMPLE COMMENTS:

Beginning Depth:

.00 Ending Depth:

.00

WRK REQUEST EXTRACTION ANALYSIS ***** ANALYSIS ***** LOC DATE EXP_DATE EXP DATE

Pesticides (8081A) 04 8/21/02 9/02/02 10/12/02

SONICATION - Low Level

O: SW846 Method 8081A Standard List

(A-13-QJ-01) E6VCK-1-AA Protocol: A QC Program: STANDARD TEST SET

8/21/02 0/00/00 11/26/02 Moisture, Percent (160.3) 04

NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION

(A-88-WM-01) E6VCK-1-AC Protocol: A QC Program: STANDARD TEST SET **PSL233** STL Derver Run Date: 08/21/2002 GC SEMI-VOLATILE ANALYSIS WORKSHEET Time: 15:46 User Id.: REVIEW DATE/BY: WORK ORDER: E6VCA-1-AA CLIENT CODE: 378708 OUOTE #: 43710 LAB NUMBER: F2H200218-001 PROJECT MANAGER: John D. Powell SITE: Waste Characterization STORAGE LOC: R158 AMT. REC"D: 120G SAMPLE ID: H-6 QC PACKAGE: Report SAMPLING DATE: 8/19/02 QC PROGRAM: STANDARD TEST SET RECEIVING DATE: 8/20/02 ANALYSIS CODE: XX-A-13-QJ-01 GC8081 S QC BATCH: SOLID, 8081A, Pesticides (Denver) SAMPLE COMMENTS: ANALYTICAL DUE DATE: 8/27/02N ANALYSIS COMMENTS: METHOD: SOLID, 8081A, Pesticides (Denver) LIST: - 02227 O: SW846 Method 8081A Standard List EXPIRATION: EXTR ANALYSIS MATRIX: SOLID EXTRACTION: SONICATION - Low Level 9/02/02 10/12/02 ANALYSIS: INSTRUMENT ID: INITIAL: CLEANUP: RUN #: FINAL: .00 SPIKE: DATE: SOLVENT: SURROGATE: BY: 0/00/00 ___ DRY WT: _ (DL) FACTOR: DATE/BY: CALIBRATION DATE: COMMENTS: Dry Weighted UNITS: ug/kg Endosulfan I . . . . . . . . 1.7 Endosulfan II. . . . . . . . 1.7 Endosulfan sulfate . . . . . 1.7 Heptachlor . . . . . . . . . . 1.7 Heptachlor epoxide . . . . . 6.7 Methoxychlor . . . . . . . . 3.3 Aldrin . . . . . . . . . . . 1.7 alpha-BHC. . . . . . . . . . 1.7 beta-BHC . . . . . . . . . . 1.7 delta-BHC. . . . . . . . . . 1.7 qamma-BHC (Lindane). . . . . 1.7 Chlordane (technical). . . . 17 4,4'-DDD . . . . . . . . . . 1.7 4,4'-DDE . . . . . . . . . . 1.7 4,4'-DDT . . . . . . . . . . . 1.7 Dieldrin . . . . . . . . . . 1.7 Endrin . . . . . . . . . . . 1.7 Endrin aldehyde. . . . . . . 1.7 * SURROGATE RECOVERIES * Decachlorobiphenyl (050 - 151 Tetrachloro-m-xylene (064 - 131

PSL233

Severn Trent Laboratories, Inc GC SEMI-VOLATILE ANALYSIS WORKSHEET

Run Date: 08/21/2002 Time: 15:46

•	Use	r	Id		:	
רעיםכ	W.H	מח	ਜਾਸ	1	שם	

	REVIEW DATE/BY:
	WORK ORDER: E6VCK-1-AA
CLIENT CODE: 378708	QUOTE #: 43710
PROJECT MANAGER: John D. Powell	LAB NUMBER: F2H200218-002
SITE: Waste Characterization	STORAGE LOC: R158
AMT. REC"D: 120G	
SAMPLE ID: H-14	,
QC PACKAGE: Report	SAMPLING DATE: 8/19/0
QC PROGRAM: STANDARD TEST SET	RECEIVING DATE: 8/20/0
ANALYSIS CODE: XX-A-13-QJ-01 GC8081 S	QC BATCH:
SOLID, 8081A, Pesticides (Denver)	go miron,
SAMPLE COMMENTS:	
NATURAL CONFINE	ANALYTICAL DUE DATE: 8/27/02
ANALYSIS COMMENTS:  * * * * * * * * * * * * ANALYSIS/EXTRACTIO	(NT T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T) N (T)
METHOD: SOLID, 8081A, Pesticides (Denver)	M DAIA
LIST: - 02227 Q: SW846 Method 8081A Stand	and Idah
MATRIX: SOLID	EXPIRATION: EXTR ANALYSI
EXTRACTION: SONICATION - Low Level	9/02/02 10/12/0
	ANALYSIS: INSTRUMENT ID:
INITIAL: 0 CLEANUP:	RUN #:
FINAL: .00 SPIKE:	DATE:
SOLVENT: SURROGATE:	BY:
DATE/BY: 0/00/00 DRY WT: %	(DL) FACTOR:
COMMENTS:	CALIBRATION DATE:
* * * * * * * * * * * * * * * * * * * *	* * * * * * * * * * * * * * * * * * *
UNITS: ug/kg	Dry Weighted
Aldrin 1.7	
alpha-BHC 1.7	
beta-BHC 1.7	
delta-BHC 1.7 gamma-BHC (Lindane) 1.7	
Chlordane (technical) 17 4,4'-DDD 1.7	
·	
4,4'-DDT 1.7 Dieldrin 1.7	
Endrin 1.7	
Endrin aldehyde 1.7	
Endosulfan I 1.7	
Endosulfan II 1.7	
Endosulfan sulfate 1.7	
Heptachlor 1.7	
Heptachlor epoxide 6.7	
Methoxychlor 3.3	
Toxaphene 170	
* CIMPAGINE PROMERTES *	·
* SURROGATE RECOVERIES *	1 m 1
Decachlorobiphenyl (050  Tetrachloro-m-xylene (064	- 151 ) - 131 )
* TECTOCHTOTO-III-YATEHG 1004	- LOL /

# Chain of Custody Record



16n1 573					Project Manager									Dat	81		102	Chain of	147	688				
TOD C	מנוקסטל בנשי	who	WAY FUN	Tolog	PHUH BY	4	History (Area Cushy) Fair Number						l.nt	> Numt	<b>)#</b> /		Page _		of					
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roject Name and Loca	tion (State)			Carri	lor/Wa	ybill N	vumb	<b>.</b>							าภ							} }	Special I	nstructions/
Unitract/Purchase Order	WADWOOD NO.					-	Matri	×	$\top$	Containers & Proservatives				がが							Conditions of Receipt			
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Relinquished By				Date			Tir			2. F	Pece	vad E	3)	-7	æ.							Date	H. P. Life.	Time
Relinquished By	···	, <u> </u>	<del></del>	Date	,		1 711	กอ		3. F	Recei	ived E	Зу								<u></u>	Date		Time



Lot No.;	F2H200218
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# Condition Upon Receipt Form St. Louis Laboratory

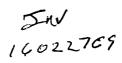
Quote No: \( \frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac{\frac	Client:	STS	Date: 🖸	8-20-02	Time: 1040	
Condition/Variance (Circle "Y" for yes and "N" for no. If "N" is circled, see notes for explanation):  1.  N Sample received in undamaged condition.  2.  Sample received within 4C±2C*  Record temperature:	Quote 1	No: 43710	Initiate	i by: J, K/s	est Coudi	
Condition/Variance (Circle "Y" for yes and "N" for no. If "N" is circled, see notes for explanation):  1.  N Sample received in undamaged condition.  2.  Sample received within 4C±2C*  Record temperature:	Shippe	No: FedEx/831429584063	COC/R	FA Numbers: /5	17688	
2. N Sample received within $4C \pm 2C^{\circ}$ Record temperature: $2^{\circ}C$ 7. N Chain of Custody matches sample IDs on containers.  3. N N/A Sample received with proper pH**.  4. N Sample received with proper pH**.  5. N Custody seal received intact and tamper evident on cooler.  6. N Custody matches sample IDs on containers.  7. Custody seal received intact and tamper evident on cooler.  6. N Sample received with Chain of Custody matches sample IDs on containers.  7. Custody seal received intact and tamper evident on cooler.  6. N Sample received with Chain of Custody matches sample IDs on containers.  8. N Custody seal received intact and tamper evident on cooler.  Custody seal received intact and tamper evident on bottles.  * Temperature Variance Does Not Affect the Following Analyses:  ** For DOE-AL (Pantex, LANL, Sandia, Timet) sites, remember to pH all containers received, except for VOA, TOX, and solls.  Notes:  ** Custody seal received intact and tamper evident on bottles.  ** Custody seal received intact and tamper evident on bottles.  ** Temperature Variance Does Not Affect the Following Analyses:  ** For DOE-AL (Pantex, LANL, Sandia, Timet) sites, remember to pH all containers received, except for VOA, TOX, and solls.  Notes:  ** Custody seal received intact and tamper evident on cooler.  ** Custody seal received intact and tamper evident on cooler.  ** Custody seal received intact and tamper evident on cooler.  ** Custody seal received intact and tamper evident on cooler.  ** Custody seal received intact and tamper evident on cooler.  ** Custody seal received intact and tamper evident on cooler.  ** Custody seal received intact and tamper evident on cooler.  ** Custody seal received intact and tamper evident on cooler.  ** Custody seal received intact and tamper evident on cooler.  ** Custody seal received intact and tamper evident on cooler.  ** Custody seal received intact and tamper evident on cooler.  ** Custody seal received intact and tamper evident on cooler.  ** Custody seal received intact and	Condit	ion/Variance (Circle "Y" for yes and "N" for ı				
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3. N N/A Sample received with proper pH**.  4. N Sample received in proper containers.  9. N Custody seal received intact and tamper evident on cooler.  4. N Sample received in proper containers.  9. N Custody seal received intact and tamper evident on bottles.  * Temperature Variance Does Not Affect the Following Analyses:  ** For DOE-AL (Pantex, LANL, Sandia, Timet) sites, remember to pH all containers received, except for VOA, TOX, and soils.  Notes:    Custody seal received intact and tamper evident on bottles.  * Temperature Variance Does Not Affect the Following Analyses:  ** For DOE-AL (Pantex, LANL, Sandia, Timet) sites, remember to pH all containers received, except for VOA, TOX, and soils.  Notes:    Custody seal received intact and tamper evident on bottles.  * Temperature Variance Does Not Affect the Following Analyses:    Custody seal received intact and tamper evident on bottles.  * Temperature Variance Does Not Affect the Following Analyses:    Custody seal received intact and tamper evident on bottles.    Custody seal received intact and tamper evident on bottles.    Custody seal received intact and tamper evident on bottles.    Custody seal received intact and tamper evident on bottles.    Custody seal received intact and tamper evident on bottles.    Custody seal received intact and tamper evident on bottles.    Custody seal received intact and tamper evident on bottles.    Custody seal received intact and tamper evident on bottles.    Custody seal received intact and tamper evident on bottles.    Custody seal received intact and tamper evident on bottles.    Custody seal received intact and tamper evident on bottles.    Custody seal received intact and tamper evident on bottles.    Custody seal received intact and tamper evident on bottles.    Custody seal received, except for VOA, TOX, and soils.    Custody seal received, except for VOA, TOX, and soils.   Custody seal received, except for VOA, TOX, and soils.   Custody seal received, except for VOA, TOX, and soils.   Custody seal received, e	2. (	Sample received within 4°C ± 2°C*	6. ÝN	Sample received wit	th Chain of Custody.	
4. Sample received in proper containers.  9. Custody seal received intact and tamper evident on bottles.  * Temperature Variance Does Not Affect the Following Analyses:  ** For DOE-AL (Pantex, LANL, Sandia, Timet) sites, remember to pH all containers received, except for VOA, TOX, and soils.  Notes  **Corrective Action:    Client's Name:		Record temperature: 2°C	7. ŶN	Chain of Custody m	atches sample IDs on containe	TS.
* Temperature Variance Does Not Affect the Following Analyses:  ** For DOE-AL (Pantex, LANL, Sandia, Timet) sites, remember to pH all containers received, except for VOA, TOX, and solls.  Notes:  ** Containers received, except for VOA, TOX, and solls.  ** Containers received, except for VOA, TOX, and solls.  ** Containers received, except for VOA, TOX, and solls.  ** Containers received, except for VOA, TOX, and solls.  ** Containers received, except for VOA, TOX, and solls.  ** Containers received, except for VOA, TOX, and solls.  ** Containers received, except for VOA, TOX, and solls.  ** Containers received, except for VOA, TOX, and solls.  ** Containers received, except for VOA, TOX, and solls.  ** Containers received, except for VOA, TOX, and solls.  ** Containers received, except for VOA, TOX, and solls.  ** Containers received, except for VOA, TOX, and solls.  ** Containers received, except for VOA, TOX, and solls.  ** Containers received, except for VOA, TOX, and solls.  ** Containers received, except for VOA, TOX, and solls.  ** Containers received, except for VOA, TOX, and solls.  ** Containers received, except for VOA, TOX, and solls.  ** Containers received, except for VOA, TOX, and solls.  ** Containers received, except for VOA, TOX, and solls.  ** Containers received, except for VOA, TOX, and solls.  ** Containers received, except for VOA, TOX, and solls.  ** Containers received, except for VOA, TOX, and solls.  ** Containers received, except for VOA, TOX, and solls.  ** Containers received, except for VOA, TOX, and solls.  ** Containers received, except for VOA, TOX, and solls.  ** Containers received, except for VOA, TOX, and solls.  ** Containers received, except for VOA, TOX, and solls.  ** Containers received, except for VOA, TOX, and solls.  ** Containers received, except for VOA, TOX, and solls.  ** Containers received, except for VOA, TOX, and solls.  ** Containers received, except for VOA, and solls.  ** Containers received, except for VOA, and solls.  ** Containers received, except for V	3.	N/A Sample received with proper pH**.	8. <b>Y</b> N	Custody seal receive	ed intact and tamper evident on	ı cooler.
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Corrective Action:  Client's Name:  Client's Name:  Client's Name:  Informed verbally on:  By:  Sample(s) processed "as is".  Sample(s) processed "as is".  Sample(s) on hold until:  If released, notify:  Sample Control Supervisor (or designate) Review:  Project Management Review:  Date:  OV-21-02	Notes:					
Corrective Action:  Client's Name:  Client's Name:  Client's Name:  Informed verbally on:  By:  Sample(s) processed "as is".  Sample(s) processed "as is".  Sample(s) on hold until:  If released, notify:  Sample Control Supervisor (or designate) Review:  Project Management Review:  Date:  OV-21-02		No custody seals on	containers	•		
☐ Client's Name: Informed verbally on: By:  ☐ Client's Name: Informed in writing on: By:  ☐ Sample(s) processed "as is".  ☐ Sample(s) on hold until: If released, notify:  Sample Control Supervisor (or designate) Review: Date: O8-201-02  Project Management Review: Date: O1-21-02	,	/ -				
☐ Client's Name: Informed verbally on: By:  ☐ Client's Name: Informed in writing on: By:  ☐ Sample(s) processed "as is".  ☐ Sample(s) on hold until: If released, notify:  Sample Control Supervisor (or designate) Review: Date: 58-20-02  Project Management Review: Date: 57-20-02		<del> </del>		· ·		
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Project Management Review: Date: DV-Z1-02		Sample(s) on hold until:		If released, notify:		
Project Management Review: Date: DV-Z1-02	Sample (	Control Supervisor (or designate) Review:	Vluss	Date:	201-02-	
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CICNED OFFICEAL ACTOR OF DESCRIPTION OF THE BOOK OF THE P	Project N	vianagement Keview:			-01-00	

SIGNED ORIGINAL MUST BE RETAINED IN THE PROJECT FILE

THIS FORM MUST BE COMPLETED AT THE TIME THE ITEMS ARE BEING CHECKED

IF ANY ITEM IS COMPLETED BY SOMEONE OTHER THAN THE INITIATOR, THEN THAT PERSON IS REQUIRED TO APPLY THEIR

INITIALS AND THE DATE NEXT TO THAT ITEM





**STL St. Louis** 13715 Rider Trail North Earth City, MO 63045

Tet 314 298 8566 Fax 314 298 8757 www.stl-inc.com

# **ANALYTICAL REPORT**

REVISED

Waste Characterization

Lot #: F2H050168

Rich Berggreen

STS Acquisitions Co. 750 Corporate Woods Parkway Vernon Hills, IL 60061

SEVERN TRENT LABORATORIES, INC.

John D. Powell Project Manager

August 16, 2002

# Case Narrative LOT NUMBER: F2H050168

This report contains the analytical results for the three samples received under chain of custody by STL St. Louis on August 5, 2002. These samples are associated with your Waste Characterization project.

All applicable quality control procedures met method-specified acceptance criteria except as noted on the following page.

This report is incomplete without the case narrative. All results are based upon sample as received, wet weight, unless noted otherwise.

# Observations/Nonconformances

Reference the chain of custody and condition upon receipt report for any variations on receipt conditions and temperature of samples on receipt.

# Nonconformance 06-12377, 06-12378

# **Affected Samples:**

F2H050168 (1): I-2 F2H050168 (2): I-4 F2H050168 (3): I-6

#### **Affected Methods:**

8081A Pesticides

#### Case Narrative:

These samples were analyzed at a dilution due to the presence of matrix interference. The reporting limit has been adjusted for the dilution. Also, a MS/MSD was not analyzed due to the interference that was present. Results are provided with this narrative.

# **METHODS SUMMARY**

# F2H050168

PARAMETER	ANALYTICAL METHOD	PREPARATION METHOD
Organochlorine Pesticides	SW846 8081A	SW846 3550
Percent Moisture	MCAWW 160.3 MOD	MCAWW 160.3 MOD

#### References:

MCAWW "Methods for Chemical Analysis of Water and Wastes", EPA-600/4-79-020, March 1983 and subsequent revisions.

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

# **SAMPLE SUMMARY**

# F2H050168

WO # S	SAMPLE#	CLIENT SAMPLE ID	SAMPLED SAMP DATE TIME
<b>B5XX</b> 3	001	I-2	08/02/02 14:30
E5XM8	002	I-4	08/02/02 14:35
<b>B</b> 5XNA	003	1-6	08/02/02 14:40

# BOTE(S):

- The analytical sessits of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results usual as "HD" were not described at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory
- Results for the following parameters are never reported on a dry weight basis: color, corresivity, density, flashpoint, ignitability, layers, odor, paint filter test, pill, parosity pressure, reactivity, redox potential, specific gravity, apot tests, solids, solubility, temperature, viscosity, and weight.

# STS ACQUISITIONS CO. dba STS CONS., LTD.

# Client Sample ID: I-2

# GC Semivolatiles

Lot-Sample #: F2H050168-001	Work Order #: E5XM31AA	Matrix: SOLID
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 Date
 Sampled...:
 08/02/02
 14:30
 Date Received...:
 08/03/02

 Prep
 Date....:
 08/08/02
 Analysis
 Date...:
 08/12/02

 Prep
 Batch #...:
 2220226
 Analysis
 Time...:
 15:57

**Dilution Factor:** 20

*** Moisture....:** 17 **Method.....:** SW846 8081A

	REPORTING	
RESULT	LIMIT	UNITS to Yu.
ND	41	ug/kg / rever Ko
ND	41	ug/kg
ND	41	ug/kg-120/140
ND	410	ug/kg // / / / / / / / / / / / / / / / /
ND	41	ug/kg OF4
ND	41	ug/kg  ug/kg  ug/kg  ug/kg  ug/kg  ug/kg  ug/kg  ug/kg  ug/kg  ug/kg  ug/kg  ug/kg  ug/kg  ug/kg  ug/kg
ND	41	ug/kg
ND	41	ug/kg
PERCENT	RECOVERY	
RECOVERY	LIMITS	_
0.0 DIL	(57 - 116)	-
0.0 DIL	(45 - 147)	
	ND ND ND ND ND ND ND ND ND PERCENT RECOVERY 0.0 DIL	RESULT   LIMIT   ND   41   ND   41   ND   41   ND   41   ND   41   ND   41   ND   41   ND   41   ND   41   ND   41   ND   41   ND   41   ND   41   ND   41   ND   41   ND   41   ND   41   ND   41   ND   41   ND   41   ND   41   ND   41   ND   41   ND   41   ND   41   ND   41   ND   41   ND   41   ND   41   ND   41   ND   41   ND   41   ND   41   ND   41   ND   41   ND   41   ND   41   ND   41   ND   41   ND   41   ND   41   ND   41   ND   41   ND   41   ND   41   ND   41   ND   41   ND   41   ND   41   ND   41   ND   41   ND   41   ND   41   ND   41   ND   41   ND   41   ND   41   ND   41   ND   41   ND   41   ND   41   ND   41   ND   41   ND   41   ND   41   ND   41   ND   41   ND   41   ND   41   ND   41   ND   41   ND   41   ND   41   ND   41   ND   41   ND   41   ND   41   ND   41   ND   41   ND   41   ND   41   ND   41   ND   41   ND   41   ND   41   ND   41   ND   41   ND   41   ND   41   ND   41   ND   41   ND   41   ND   41   ND   41   ND   41   ND   41   ND   41   ND   41   ND   41   ND   41   ND   41   ND   41   ND   41   ND   41   ND   41   ND   41   ND   41   ND   41   ND   41   ND   41   ND   41   ND   41   ND   41   ND   41   ND   41   ND   41   ND   41   ND   41   ND   41   ND   41   ND   ND   41   ND   ND   ND   ND   ND   ND   ND   N

# NOTE (S):

DIL. The concentration is estimated or not reported due to dilution or the presence of interfering analyses.

Results and reporting limits have been adjusted for dry weight.

Client Sample ID: I-2

## General Chemistry

Lot-Sample #...: P2H050168-001 Work Order #...: R5XM3 Matrix.....: SOLID

Date Sampled...: 08/02/02 14:30 Date Received..: 08/03/02

**% Moisture....:** 17

 PARAMETER
 RESULT
 RL
 UNITS
 METHOD
 ANALYSIS DATE
 BATCH #

 Percent Moisture
 16.8
 0.10
 %
 MCARW 160.3 MOD
 08/05-08/06/02
 2217431

Cilution Factor: 1 Analysis Time..: 00:04

LOT# P2H050168

## Client Sample ID: I-4

#### GC Semivolatiles

Lot-Sample #:	F2H050168-002	Work Order #:	E5XM81AA	Matrix: SOLID
Date Sampled:	08/02/02 14:35	Date Received:	08/03/02	

 Prep Date....:
 08/08/02
 Analysis Date..:
 08/10/02

 Prep Batch #...:
 2220226
 Analysis Time..:
 03:55

Dilution Factor: 20

* Moisture....: 15 Method.....: SW846 8081A

		REPORTIN	r <b>G</b>
PARAMETER	RESULT	LIMIT	UNITS
Heptachlor	ND	40	ug/kg
Heptachlor epoxide	ND	40	ug/kg
Aldrin	ND	40	ug/kg
Chlordane (technical)	ND	400	ug/kg
alpha-BHC	ND	40	ug/kg
gamma-BHC (Lindane)	ND	40	ug/kg
4,4'~DDT	ND	40	ug/kg
Dieldrin	ND	40	ug/kg
	PERCENT	RECOVERY	
SURROGATE	RECOVERY	LIMITS	
Tetrachloro-m-xylene	0.0 DIL	(57 - 11	6)
Decachlorobiphenyl	0.0 DIL	(45 - 14	7)

### NOTE (S):

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

Results and reporting limits have been adjusted for dry weight.

LOT# F2H050168

7

Client Sample ID: I-4

## General Chemistry

Lot-Sample #...: F2H050168-002 Work Order #...: E5XM8 Matrix.....: SOLID

Date Sampled...: 08/02/02 14:35 Date Received..: 08/03/02

*** Moisture....:** 15

 PARAMETER
 RESULT
 RL
 UNITS
 METHOD
 ANALYSIS DATE
 BATCH #

 Percent Moisture
 15.3
 0.10
 %
 MCAHW 160.3 NOD
 08/05-08/06/02
 2217431

Dilution Factor: 1 Analysis Time..: 00:04

LOT# P2H050168

## Client Sample ID: I-6

#### GC Semivolatiles

Lot-Sample #: F2H050168-003	Work Order #: E5XNA1AA	Matrix: SOLID
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 Date
 Sampled...:
 08/02/02
 14:40
 Date
 Received...:
 08/03/02

 Prep
 Date...:
 08/08/02
 Analysis
 Date...:
 08/10/02

 Prep
 Batch #...:
 2220226
 Analysis
 Time...:
 04:14

Dilution Factor: 20

* Moisture....: 18 Method.....: SW846 8081A

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Heptachlor	49	42	ug/kg
Heptachlor epoxide	ND	42	ug/kg - / vol Limit
Aldrin	ND	42	ug/kg - 12015th //
Chlordane (technical)	ND	420	ug/kg 40 2 (mij/Rg)
alpha-BHC	ND	42	ug/kg
gamma-BHC (Lindane)	ND	42	ug/kg  ug/kg  ug/kg  ug/kg  ug/kg  ug/kg  ug/kg  ug/kg  ug/kg  ug/kg  ug/kg  ug/kg
4,4'-DDT	ND	42	ug/kg
Dieldrin	ND	42	ug/kg
	PERCENT	RECOVERY	
SURROGATE	RECOVERY	LIMITS	_
Tetrachloro-m-xylene	0.0 DIL	(57 - 116)	
Decachlorobiphenyl	0.0 DIL	(45 - 147)	

## NOTE (S):

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

Results and reporting limits have been adjusted for dry weight.

Client Sample ID: I-6

## General Chemistry

Lot-Sample #...: F2H050168-003 Work Order #...: E5XNA Matrix.....: SOLID

Date Sampled...: 08/02/02 14:40 Date Received..: 08/03/02

**% Moisture....:** 18

 PARAMETER
 RESULT
 RL
 UNITS
 METHOD
 ANALYSIS
 DATE
 BATCH #

 Percent Moisture
 18.3
 0.10
 %
 MCAWN 160.3 MOD
 08/05-08/06/02
 2217431

Dilution Factor: 1 Analysis Time..: 00:04

LOT# F2H050168 1(

## METHOD BLANK REPORT

## GC Semivolatiles

Client Lot #...: F2H050168 Work Order #...: E54F01AA Matrix.....: SOLID

MB Lot-Sample #: F2H080000-226

Prep Date....: 08/08/02 Analysis Time..: 00:29

Dilution Factor: 1

		REPORTI	NG	
PARAMETER	RESULT	LIMIT	UNITS	METHOD
Heptachlor	ND	1.7	ug/kg	SW846 8081A
Heptachlor epoxide	ND	1.7	ug/kg	SW846 8081A
Aldrin	ND	1.7	ug/kg	SW846 8081A
Chlordane (technical)	ИD	17	ug/kg	SW846 8081A
alpha-BHC	ND	1.7	ug/kg	SW846 8081A
gamma-BHC (Lindane)	ND	1.7	ug/kg	SW846 8081A
4,4'-DDT	ND	1.7	ug/kg	SW846 8081A
Dieldrin	ND	1.7	ug/kg	SW846 8081A
	PERCENT	RECOVER!	Y	
SURROGATE	RECOVERY	LIMITS		
Tetrachloro-m-xylene	88	(57 - 13	16)	
Decachlorobiphenyl	97	(45 - 14	<b>1</b> 7)	

NOTE (S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LOT# F2H050168 11

## LABORATORY CONTROL SAMPLE EVALUATION REPORT

## GC Semivolatiles

Client Lot #...: F2H050168 Work Order #...: E54F01AC Matrix.....: SOLID

LCS Lot-Sample#: F2H080000-226

 Prep Date....:
 08/08/02
 Analysis Date...:
 08/10/02

 Prep Batch #...:
 2220226
 Analysis Time...:
 00:47

Dilution Factor: 1

	PERCENT	RECOVERY	
PARAMETER	RECOVERY	LIMITS	METHOD
Beptachlor	95	(58 - 150)	SW846 8081A
Heptachlor epoxide	93	(62 - 150)	SW846 8081A
Aldrin	91	(57 - 150)	SW846 8081A
alpha-BBC	85	(56 - 150)	SW846 8081A
gasma-BHC (Lindane)	86	(59 - 150)	SW846 8081A
Endrin	97	(62 - 150)	SW846 8081A
4,4'-DDT	104	(66 - 150)	SW846 8081A
Dieldrin	93	(57 - 150)	SW846 8081A
beta-BBC	85	(53 - 150)	SW846 8081A
delta-BBC	56	(49 - 141)	SW846 8081A
alpha-Chlordane	94	(57 - 150)	SW846 8081A
gama-Chlordane	95	(58 - 150)	SW846 8081A
4,4'-DDD	95	(60 - 149)	SW846 8081A
4,4'-DDB	96	(65 - 150)	SW846 8081A
Endogulfan I	93	(60 - 146)	SW846 8081A
Endosulfan II	93	(59 - 150)	SW846 8081A
Endosulfan sulfate	84	(59 - 148)	SW846 8081A
Endrin aldebyde	79	(43 - 150)	SW846 8081A
Endrin ketone	96	(61 - 150)	SW846 8081A
Methoxychlor	<b>9</b> 7	(62 - 150)	SW846 8081A
		PERCENT	RECOVERY
SURROGATE		RECOVERY	LIMITS
Tetrachloro-m-xylene		100	(66 - 133)
Decachlorobiphenyl		102	(59 - 146)

HOTE (S):

Calculations are performed before rounding to avoid round-off errors to calculated results.

Bold print denotes control parameters

LOT# F2H050168

PSL20300 Page 1

SEVERN TRENT LABORATORIES, INC
CLIENT ANALYSIS SUMMARY
STL St. Louis
CLIENT ANALYSIS SUMMARY
STL St. Louis
CLIENT ANALYSIS SUMMARY
User Id.: WILSONS

CLIENT: 378708 STS ACQUISITIONS CO. dba STS CONS., LTD. QUOTE/SAR #: 43710

PROJECT MANAGER: John D. Powell LAB ID: F-2H050168-001

WORK ORDER: E5XM3 PROJECT #:

Rich Berggreen RECEIVING DATE: 8/03/02 REPORT TO:

SAMPLING DATE: 8/02/02 P.O. NUMBER: ANALYTICAL DUE DATE: 8/09/02N SITE: Waste Characterization

AMOUNT REC"D: 120G REPORT DUE DATE: 8/09/02

STORAGE LOC: R75 PRIORITY: 04

LOT COMMENTS: SAMPLING TIME: 14:30 MATRIX: SOLID RECEIVING TIME: 8:45

USAF MATRIX: SAMPLE ID: I-2

SDG# : QC PACKAGE: Report

SAMPLE COMMENTS:

Beginning Depth: .00 Ending Depth: .00

WRK REQUEST EXTRACTION ANALYSIS ***** ANALYSIS ***** DATE EXP DATE EXP DATE LOC

06 8/05/02 8/16/02 9/25/02 Pesticides (8081A)

SONICATION - Low Level STL: Pesticides by 8081A

(A-13-QJ-01) E5XM3-1-AA Protocol: A QC Program: STANDARD TEST SET

Moisture, Percent (160.3) 06 8/05/02 0/00/00 11/09/02

NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION

(A-88-WM-01) E5XM3-1-AC Protocol: A QC Program: STANDARD TEST SET

#### STL ST. LOUIS

PSL20300 Page 1

SEVERN TRENT LABORATORIES, INC Run Date: 8/05/02
CLIENT ANALYSIS SUMMARY Time: 14:48:00
STL St. Louis User Id.: WILSONS

CLIENT: 378708 STS ACQUISITIONS CO. dba STS CONS., LTD. QUOTE/SAR #: 43710

LAB ID: F-2H050168-002 PROJECT MANAGER: John D. Powell

WORK ORDER: E5XM8 PROJECT #:

Rich Berggreen RECEIVING DATE: 8/03/02 REPORT TO: SAMPLING DATE: 8/02/02 P.C. NUMBER:

SITE: Waste Characterization ANALYTICAL DUE DATE: 8/09/02N

REPORT DUE DATE: 8/09/02 AMOUNT RECTD: 120G

STORAGE LOC: R75 PRICRITY: 04

SAMPLING TIME: 14:35 LOT COMMENTS:

MATRIX: SOLID RECEIVING TIME: 8:45

USAF MATRIX: SAMPLE ID: I-4

QC PACKAGE: Report SDG# :

SAMPLE COMMENTS:

Beginning Depth: .00 Ending Depth: .00

WRK REQUEST EXTRACTION ANALYSIS

***** ANALYSIS ***** DATE EXP DATE EXP DATE <u>LOC</u>

06 8/05/02 8/16/02 9/25/02 Pesticides (8081A)

SONICATION - Low Level STL: Pesticides by 8081A

[A-13-QJ-01] E5XM8-1-AA Protocol: A QC Program: STANDARD TEST SET

Moisture, Percent (160.3) C6 8/C5/O2 C/CO/OO 11/O9/O2

NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION

(A-86-WM-01) ESXM8-1-AC Protocol: A QC Program: STANDARD TEST SET

PSL20300 SEVERN TRENT LABORATORIES, INC Run Date: 8/05/02 Page 1 CLIENT ANALYSIS SUMMARY Time: 14:48:00 SEVERN TRENT LABORATORY.

CLIENT ANALYSIS SUMMARY

Time: 14:40:00
User Id.: WILSONS

CLIENT: 378708 STS ACQUISITIONS CO. dba STS CONS., LTD. QUOTE/SAR #: 43710

PROJECT MANAGER: John D. Powell

LAB ID: F-2H050168-003

PROJECT #:

WORK ORDER: E5XNA

REPORT TO:

Rich Berggreen RECEIVING DATE: 8/03/02

P.O. NUMBER:

SAMPLING DATE: 8/02/02

P.O. NUMBER: SAMPLING DATE: 8/02/02
SITE: Waste Characterization ANALYTICAL DUE DATE: 8/09/02N REPORT DUE DATE: 8/09/02

AMOUNT REC"D: 120G

STORAGE LOC: R75

PRIORITY: 04

LOT COMMENTS: MATRIX: SOLID

SAMPLING TIME: 14:40 RECEIVING TIME: 8:45

USAF MATRIX: SAMPLE ID: I-6

SDG# :

QC PACKAGE: Report SAMPLE COMMENTS:

***** ANALYSIS *****

Beginning Depth: .00 Ending Depth: .00

WRK REQUEST EXTRACTION ANALYSIS

LOC DATE EXP DATE EXP DATE

Pesticides (8081A)

06 8/05/02 8/16/02 9/25/02

SONICATION - Low Level

STL: Pesticides by 8081A

(A-13-QJ-01) E5XNA-1-AA Protocol: A QC Program: STANDARD TEST SET

Moisture, Percent (160.3) NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION

06 8/05/02 0/00/00 11/09/02

(A-88-WM-01) E5XNA-1-AC Protocol: A QC Program: STANDARD TEST SET



Sample I.D.	Date	Time	1	8			_					4 DAYS	
			Compos	No. of Contain	Sample Type (Mark, set, st. aven, set.)	Preervator	T T	Field	E Date	Special Cond.	Analysis Request		nents on Sample (ajor Contsminants)
I-2	14/2	470	K		Ssi/	+++	<del>"</del>	<del> </del>			PESTOCIDES, Moisture	SW 846	808/
		1436	Ti			11					11	Pegreile	
I-4 I-6		1440									11	Aldrin	
												MpHa-BI	se .
<del></del>	<b>.</b>					_		1_				CH/ORDAM	No FED MALO.
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						11	1	_				HEDINGRO	nt Eparide
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			سطر				Ш.	<u> </u>	L	لللل		4,4'D	DT
Collected by	2		2	H	ate sy	12/i	عد	T	me _	K-25	Delivery by:	Date	Time
Received by:					Date			11	me		Relinquished by:	Date	Time
Received by:					Date			T	me		Relinquished by:	Date	Time
Received by:					Date			T	me		Relinquished by:	Date	Time
Received for lab by:	:30	1/			Date 3/	3/02		T	me (	3845	Relinquished by:	Date	Time
aboratory Comme		.,	Seal						Yes	□ No	□ N/A		
inal Disposition:											Comments (Weather Conditions, F	Precautions, Hazards):	
•		<del></del>					<del></del> .				36	~	
<del></del>											Plant Sind con	TOOL BACK !	0 210 12-564

Instructions to Laboratory: Forward completed original to STS with analytical results. Retain green copy.

6/99cp10k

8.5.02 Lot No.: F2H050106

## **Condition Upon Receipt Form** St. Louis Laboratory

Client: STS Consultants  Quote No: 47370 43710 S  Shipper/No: Fed Ex 834998434702  Condition/Variance (Circle "Y" for yes and "N" for	COC	ted by: Time: 0845  /RFA Numbers: 39063  ee notes for explanation):
1. Sample received in undamaged condition 2. Y Sample received within 4°C ± 2°C*  Record temperature: 2°C  3. Y N Sample received with proper pH**.  4. N Sample received in proper containers.  * Temperature Variance Does Not Affect the Following And Part Sample received in proper containers.	6.	Sample received with Chain of Custody.
** For DOE-AL (Pantex, LANL, Sandia, Timet) sites, rem  Notes: 8, 9) h fat peses	ember to pH all containe	rs received, except for VOA, TOX, and soils.
Corrective Action:		
Corrective Action:  Client's Name:	Informed verbally on:	Ву:
Client's Name:	Informed in writing on	Ву:
Sample(s) processed "as is".  Sample(s) on hold until:		If released, notify:
Sample Control Supervisor (or designate) Review:  Project Management Review:	4 di	Date: Dr.05.02

SIGNED ORIGINAL MUST BE RETAINED IN THE PROJECT FILE THIS FORM MUST BE COMPLETED AT THE TIME THE ITEMS ARE BEING CHECKED IF ANY ITEM IS COMPLETED BY SOMEONE OTHER THAN THE INITIATOR, THEN THAT PERSON IS REQUIRED TO APPLY THEIR INITIALS AND THE DATE NEXT TO THAT ITEM

Inv 16022768



**ST1. St. Louis** 13715 Rider Trail North Earth City, MO 63045

Tel 314 298 8566 Fax 314 298 8757 www.stl-inc.com

## ANALYTICAL REPORT

REVISED

Waste Characterization

Lot #: F2H020131

Rich Berggreen

STS Acquisitions Co. 750 Corporate Woods Parkway Vernon Hills, IL 60061

SEVERN TRENT LABORATORIES, INC.

Project Manager

August 16, 2002

## Case Narrative LOT NUMBER: F2H020131

This report contains the analytical results for the two samples received under chain of custody by STL St. Louis on August 2, 2002. These samples are associated with your Waste Characterization project.

All applicable quality control procedures met method-specified acceptance criteria except as noted on the following page.

This report is incomplete without the case narrative. All results are based upon sample as received, wet weight, unless noted otherwise.

## Observations/Nonconformances

Reference the chain of custody and condition upon receipt report for any variations on receipt conditions and temperature of samples on receipt.

#### Nonconformance 06-12359

## **Affected Samples:**

F2H020131 (1): H-4 F2H020131 (2): H-8

#### Affected Methods:

8081A Pesticides

#### Case Narrative:

The MS recovery for delta-BHC, gamma-BHC, endrin, endosulfan sulfate and methoxychlor for sample F2H020307-001 (E5VN31AL) is outside the established lower QC limits. The MSD recovery for delta-BHC and methoxychlor for sample F2H020307-001 (E5VN31AM) is outside the established lower QC limits. The RPD is within method acceptance criteria indicating a possible matrix interference. Method performance is demonstrated by acceptable LCS recovery. No further action is required. The data is reported with this narrative.

## Nonconformance 06-12360

## **Affected Samples:**

F2H020131 (1): H-4 F2H020131 (2): H-8

## **Affected Methods:**

8081A Pesticides

## Case Narrative:

These samples were analyzed at a dilution due to the presence of matrix interference. The reporting limit has been adjusted for the dilution. Results are provided with this narrative.

LOT# F2H020131 3

## **METHODS SUMMARY**

## F2H020131

PARAMET	ER	ANALYTICAL METHOD	PREPARATION METHOD
Organoci	hlorine Pesticides	SW846 8081A	SW846 3550
Percent	Moisture	MCANW 160.3 MOD	MCAWW 160.3 MOD
Referen	ces:		
НСАИН	*Methods for Chemical Analysis of Water EPA-600/4-79-020, March 1983 and subsequ		
SW846	"Test Methods for Evaluating Solid Waste Methods", Third Edition, November 1986		cal

## **SAMPLE SUMMARY**

## F2H020131

WO #_	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
E5R4G	001	H-4	08/01/02	
E5R4J	002	H-8	08/01/02	

#### NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

5

## Client Sample ID: H-4

#### GC Semivolatiles

Lot-Sample #:	F2H020131-001	Work Order #:	B5R4G1AA	Matrix SOLID

 Date Sampled...:
 08/01/02
 13:30
 Date Received...:
 08/02/02

 Prep Date....:
 08/05/02
 Analysis Date...:
 08/10/02

 Prep Batch #...:
 2217113
 Analysis Time...:
 02:40

Dilution Factor: 20

* Moisture....: 3.6 Method....: SW846 8081A

		REPORTIN	REPORTING		
PARAMETER	RESULT	LIMIT	UNITS		
Heptachlor	ND	35 35 35 35	ug/kg		
Heptachlor epoxide	ND		ug/kg		
Aldrin	ND		ug/kg ug/kg		
Chlordane (technical)	ND				
alpha-BHC	ND	35	ug/kg		
gamma-BHC (Lindane)	ND	35	ug/kg		
4,4'-DDT	ND	35	ug/kg		
Dieldrin	ND	35	ug/kg		
	PERCENT	RECOVERY			
SURROGATE	RECOVERY	LIMITS			
Tetrachloro-m-xylene	0.0 DIL	(57 - 11	.6)		
Decachlorobiphenyl	0.0 DIL	(45 - 14	17)		

BOTE (S) :	:
------------	---

DGL The concentration is estimated or not reported due to dilution or the presence of interfering analyses.

Results and reporting femits have been adjusted for dry weight.

LOT# F2H020131

Client Sample ID: H-4

General Chemistry

Lot-Sample #...: F2H020131-001 Work Order #...: E5R4G Matrix.....: SOLID

Date Sampled...: 08/01/02 13:30 Date Received..: 08/02/02

*** Moisture....:** 3.6

 PARAMETER
 RESULT
 RL
 UNITS
 METHOD
 ANALYSIS DATE
 BATCH #

 Percent Moisture
 3.6
 0.10
 \$ MCANW 160.3 MOD
 08/05-08/06/02
 2217423

Dilution Factor: 1 Analysis Time..: 00:00

LOT# F2H020131 7

## Client Sample ID: H-8

## GC Semivolatiles

Lot-Sample #: F2H020131-002	Work Order #: E5R4J1AA	Matrix SOLID
Date Sampled: 08/01/02 13:40	Date Received: 08/02/02	

 Prep Date....:
 08/05/02
 Analysis Date..:
 08/10/02

 Prep Batch #...:
 2217113
 Analysis Time..:
 02:59

Dilution Factor: 20

**% Moisture....:** 3.5 **Method.....:** SW846 8081A

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Heptachlor	ND	35	ug/kg
Heptachlor epoxide	MD	35	ug/kg
Aldrin	ND	35	ug/kg
Chlordane (technical)	ND	350	ug/kg
alpha-BHC	MD	35	ug/kg
gamma-BHC (Lindane)	NID	35	ug/kg
4,4'-DOT	ND	35	ug/kg
Dieldrin	ND	35	ug/kg
	PERCENT	RECOVERY	
SURROGATE	RECOVERY	LIMITS	_
Tetrachloro-m-xylene	0.0 DIL	(57 - 116)	_
Decachlorobiphenyl	0.0 DIL	(45 - 147)	

#### EOTE(S):

DEL The concentration is enumated or not reported due to dilution or the presence of interfering analyses.

Results and reporting lines have been adjusted for dry weight.

Client Sample ID: H-8

## General Chemistry

Lot-Sample #...: F2H020131-002 Work Order #...: E5R4J Matrix....: SOLID

Date Sampled...: 08/01/02 13:40 Date Received..: 08/02/02

*** Moisture....:** 3.5

 PARAMETER
 RESULT
 RL
 UNITS
 METHOD
 ANALYSIS DATE
 BATCH #

 Percent Moisture
 3.5
 0.10
 %
 MCANW 160.3 MOD
 08/05-08/06/02
 2217423

Dilution Factor: 1 Analysis Time..: 00:04

LOT# F2H020131

9

## METHOD BLANK REPORT

## GC Semivolatiles

Client Lot #...: F2H020131

Work Order #...: E5WTL1AA

Matrix..... SOLID

**IB Lot-Sample #:** F2H050000-113

Prep Date....: 08/05/02
Prep Batch #...: 2217113

Analysis Time..: 01:06

**Analysis Date..:** 08/10/02

Dilution Factor: 1

REPORTING

		KELOKIT	<b>**</b> 3	
PARAMETER	RESULT	LIMIT	UNITS	METROD
Heptachlor	ND	1.7	ug/kg	SW846 8081A
Heptachlor epoxide	ND	1.7	ug/kg	SW846 8081A
Aldrin	NID	1.7	ug/kg	SW846 8081A
Chlordane (technical)	ND	17	ug/kg	SW846 8081A
alpha-BHC	ND	1.7	ug/kg	SW846 8081A
gamma-BHC (Lindane)	ND	1.7	ug/kg	SW846 8081A
4,4'-DDT	ND	1.7	ug/kg	SW846 8081A
Dieldrin	MD	1.7	ug/kg	SW846 8081A
	PERCENT	RECOVER:	Y	
SURROGATE	RECOVERY	LIMITS		
Tetrachloro-m-xylene	60	(57 - 1	16)	
Decachlorobiphenyl	79	(45 - 1	47)	

## HOTE (S):

Calculations are performed before rounding to avoid round-off errors in calculated reachs.

LOT# F2H020131 1(

#### LABORATORY CONTROL SAMPLE EVALUATION REPORT

#### GC Semivolatiles

Client Lot #...: F2H020131 Work Order #...: E5WTL1AC Matrix.....: SOLID

LCS Lot-Sample#: F2H050000-113

 Prep Date....:
 08/05/02
 Analysis Date..:
 08/10/02

 Prep Batch #...:
 2217113
 Analysis Time..:
 01:25

Dilution Factor: 1

	PERCENT	RECOVERY	
PARAMETER	RECOVERY	LIMITS	METHOD
Heptachlor	83	(58 - 150)	SW846 8081A
Heptachlor epoxide	83	(62 - 150)	SW846 8081A
Aldrin	79	(57 - 150)	SW846 B081A
alpha-BHC	75	(56 - 150)	SW846 8081A
gamma-BHC (Lindane)	78	(59 - 150)	SW846 8081A
Endrin	86	(62 - 150)	SW846 8081A
4,4'-DDT	94	(66 - 150)	SW846 8081A
Dieldrin	84	(57 - 150)	SW846 8081A
beta-BHC	76	(53 - 150)	SW846 8081A
delta-BHC	52	(49 - 141)	SW846 8081A
alpha-Chlordane	82	(57 - 150)	SW846 8081A
gamma-Chlordane	83	(58 - 150)	SW846 8081A
4,4'-DDD	82	(60 - 149)	SW846 8081A
4,4'~DDR	84	(65 - 150)	SW846 8081A
Endosulfan I	81	<b>(60 - 146)</b>	SW846 8081A
Endosulfan II	82	(59 - 150)	SW846 8081A
Kndosulfan sulfate	75	(59 - 148)	SW846 8081A
Endrin aldehyde	77	(43 - 150)	SW846 8081A
Kndrin ketone	86	(61 - 150)	SW846 8081A
Methoxychlor	85	(62 - 150)	SW846 8081A
		PERCENT	RECOVERY
SURROGATE		RECOVERY	LIMITS
Tetrachloro-m-xylene		73	(66 - 133)
Decachlorobiphenyl		78	(59 - 146)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

**Bold print denotes control parameters** 

LOT# F2H020131

11

## MATRIX SPIKE SAMPLE EVALUATION REPORT

#### GC Semivolatiles

Client Lot #...: F2H020131 Work Order #...: E5VN31AL-MS Matrix.....: SOLID

MS Lot-Sample #: F2H020307-001 E5VN31AM-MSD

 Date Sampled...:
 08/01/02
 Date Received...:
 08/02/02

 Prep Date.....:
 08/05/02
 Analysis Date...:
 08/10/02

 Prep Batch #...:
 2217113
 Analysis Time...:
 02:02

 Dilution Factor:
 1
 Moisture....:
 7.4

	PERCENT	RECOVERY		RPD	
PARAMETER	RECOVERY	LIMITS	RPD	LIMITS	METHOD
Heptachlor	81	(52 - 150)		· · · · · · · · · · · · · · · · · · ·	SW846 8081A
	85	(52 - 150)	5.1	(0-30)	SW846 8081A
Heptachlor epoxide	81	(73 - 124)			SW846 8081A
	85	(73 - 124)	5.8	(0-30)	SW846 8081A
Aldrin	77	(70 ~ 115)			SW846 8081A
	82	(70 - 115)	6.1	(0-30)	SW846 8081A
alpha-BBC	75	(72 - 115)			SW846 8081A
	79	(72 - 115)	6.2	(0-30)	SW846 8081A
gamma-BBC (Lindane)	78 a	(80 - 117)			SW846 8081A
	82	(80 - 117)	5.3	(0-30)	SW846 8081A
Endrin	84 a	(85 - 125)			SW846 8081A
	88	(85 - 125)	4.2	(0-30)	SW846 8081A
4,4'-DDT	92	(66 - 150)			SW846 8081A
	98	(66 - 150)	6.3	(0-30)	SW846 8081A
Dieldrin	83	(62 - 145)			SW846 8081A
	87	(62 - 145)	5.7	(0-30)	SW846 8081A
beta-BBC	75	(29 - 150)		_	SW846 8081A
	78	(29 - 150)	3.2	(0-30)	SW846 8081A
delta-BHC	51 a	(62 - 115)			SW846 8081A
	53 a	(62 - 115)	3.8	(0-30)	SW846 8081A
alpha-Chlordane	81	(10 - 150)			SW846 8081A
	84	(10 - 150)	4.4	(0-30)	SW846 8081A
gama-Chlordane	81	(45 - 150)		• • • • •	SW846 8081A
	84	(45 - 150)	4.4	(0-30)	SW846 8081A
4,4'-DDD	81	(59 - 149)			SW846 8081A
	85	(59 - 149)	5.1	(0-30)	SW846 8081A
4,4'-DDE	83	(73 - 123)		(0.00)	SW846 8081A
	88	(73 - 123)	5.6	(0-30)	SW846 8081A
Endosulfan I	80	(73 - 118)		(0.00)	SW846 8081A
Sudamilán TT	84	(73 - 118)	5.1	(0-30)	SW846 8081A
Endosulfan II	79	(78 - 115)		(0.20)	SW846 8081A
Endosulfan sulfate	83	(78 - 115)	4.4	(0-30)	SW846 8081A
mineditan antiace	72 a	(75 - 115)		(0.30)	SW846 8081A
Madain aldahada	76	(75 - 115)	4.9	(0-30)	SW846 8081A
Endrin aldebyde	70 74	(40 - 132)		(0.20)	SW846 8081A
Rodrin ketone	74	(40 - 132)	5.0	(0-30)	SW846 8081A
MARIN RECORE	83 87	(70 - 139)		(0.20)	SW846 8081A
Nethoxychlor		(70 - 139)	5.7	(0-30)	SW846 8081A
recinity cittue	79 a	(85 - 145)		(0.20)	SW846 8081A
	82 a	(85 - 145)	4.5	(0-30)	SW846 8081A

(Continued on next page)

12

## MATRIX SPIKE SAMPLE EVALUATION REPORT

## GC Semivolatiles

Client Lot #...: F2H020131 Work Order #...: E5VN31AL-MS Matrix.....: SOLID

MS Lot-Sample #: F2H020307-001 E5VN31AM-MSD

	PERCENT	RECOVERY
SURROGATE	RECOVERY	LIMITS
Tetrachloro-m-xylene	72	(57 - 116)
	77	(57 - 116)
Decachlorobiphenyl	84	(45 - 147)
- ·	93	(45 - 147)

NOTE (S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

**Bold print denotes control parameters** 

Results and reporting limits have been adjusted for dry weight.

a Spiked analyte recovery is outside stated control limits.

LOT# F2H020131

#### STL ST. LOUIS

PSL20300 PSL20300 Page 1 SEVERN TRENT LABORATORIES, INC Run Date: 8/02/02
CLIENT ANALYSIS SUMMARY Time: 9:21:30
STL St. Louis User Id.: WILSONS

Time: 9:21:30

CLIENT: 378703 STS ACQUISITIONS CO. dba STS CONS., LTD. QUOTE/SAR #: 43710

LAB ID: F-2H020131-001 PROJECT MANAGER: John D. Powell

PROJECT #: WORK ORDER: ESR4G

Rich Berggreen RECEIVING DATE: 8/02/02 REPORT TO:

SAMPLING DATE: 8/01/02 P.O. NUMBER:

ANALYTICAL DUE DATE: 8/09/02N REPORT DUE DATE: 8/09/02 SITE: Waste Characterization

AMOUNT REC*D: 120G

STORAGE LOC: R60 PRIORITY: 07

LOT COMMENTS: SAMPLING TIME: 13:30 RECEIVING TIME: 9:15

MATRIX: SCLID USAF MATRIX:

SAMPLE ID: H-4 QC PACKAGE: Report SDG# :

SAMPLE COMMENTS:

Beginning Depth: .00 Ending Depth: .00

WRK REQUEST EXTRACTION ANALYSIS ***** ANALYSIS ***** <u>LOC</u> DATE EXP DATE EXP DATE

06 8/02/02 8/15/02 9/24/02 Pesticides (8081A)

SONICATION - Low Level STL: Pesticides by 8081A

(A-13-QJ-01) E5R4G-1-AA Protocol: A QC Program: STANDARD TEST SET

SAMPLE COMMENTS:

PSL20300 Page 1 SEVERN TRENT LABORATORIES, INC
CLIENT ANALYSIS SUMMARY
Time: 9:21:30
STL St. Louis
User Id.: WILSONS

CLIENT: 378708 STS ACQUISITIONS CO. dba STS CONS., LTD. QUOTE/SAR #: 43710 PROJECT MANAGER: John D. Powell LAB ID: F-2H020131-002

WORK ORDER: E5R4J PROJECT #:

Rich Berggreen RECEIVING DATE: 8/02/02 REPORT TO: SAMPLING DATE: 8/01/02 P.O. NUMBER:

SITE: Waste Characterization ANALYTICAL DUE DATE: 8/09/02N

REPORT DUE DATE: 8/09/02 AMOUNT REC"D: 120G

STORAGE LOC: R60 PRIORITY: 07

LOT COMMENTS: SAMPLING TIME: 13:40 RECEIVING TIME: 9:15

MATRIX: SOLID USAF MATRIX: SAMPLE ID: H-8

QC PACKAGE: Report SDG# :

Beginning Depth: .00 Ending Depth: .00

WRK REQUEST EXTRACTION ANALYSIS ***** ANALYSIS ***** LOC DATE EXP DATE EXP DATE 06 8/02/02 8/15/02 9/24/02 Pesticides (8081A)

SONICATION - Low Level STL: Pesticides by 8081A

(A-13-QJ-01) E5R4J-1-AA Protocol: A QC Program: STANDARD TEST SET

## STATEN TRENT SHORES

# Severn Trent Laboratories, inc.

11. 4124 (0801) Client S/S Arkfress	T.ue	Project Manager  Kieft BFZCCEX 55-  Tolophysia Number (Area Code) Tax Number  (847) 279-2600					Calo S/1/02					٢_	Chain of Custody Number 115329									
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Project Name and Location (State)		CarriorMaybill			<u>o</u> ,				***								Sacalat	Instructions/				
Cunivaci/Purchase Order/Quote No.			٨	Antri	×				taine serva				3								Condition	ns of Receip
Sample I.D. No. and Description Containers for each sample may be combined on one line)  Date	Time	1	1	3	3	Ī	<b>1080</b>	8	ð	Ò	şğ		33									
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STL



Lot No .: F2H020131

## Condition Upon Receipt Form, St. Louis Laboratory

Clien	nt: <b>5</b>	5 consultant	× 437	716 SN	Date:	8-2	-02	Time: 9:/3	
Quot	e No:	123/6 1 20 3	7820	8.202	Initiated	l by:	gw.		
Ship	pet/No: Fe	k 8349984	<u>3</u> 4676	•	COC/RI	FA Num	bers: //	5329	
Conc	dition/Varian	ce (Circle "Y" for yes and	"N" for no	. If "N" is c	ircled, see	notes fo	r explanatio	on):	
1.	ØN.	Sample received in undamaged	d condition.	5.	2 N	Sample	volume suffic	cient for analysis	
2.	Y 🕥	Sample received within 4-C ± 2	2-C*	6.	(P)N	Sample	received with	Chain of Custo	dy.
		Record temperature: 19	<del></del>	7.	$\bigcirc$	Chain o	of Custody ma	tches sample ID	s on containers.
3.	Y N/A	Sample received with proper p	H**.	8.	YN	Custod	y seal received	d intact and tarry	per evident on cooler.
4.	ØN	Sample received in proper con	tainers.	9.	y 🗭	Custod	y seal received	d intact and tamp	er evident on bottles.
	-	ance Does Not Affect the Follo	-						<del></del>
** Fo	•	intex, LANL, Sandia, Timet) s	ites, remem	ber to pH all	containers i	received,	except for V	OA, TOX, and	oils.
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Corre	ective Action:						<del></del>		
	Client's N	fame:		Informed ver	bally on:			Ву:	
	Client's N	ame:		Informed in v	vriting on:			By:	
	Sample(s	) processed "as is".							
	Sample(s	on hold until:			<del>-</del>	If releas	sed, notify:		
Sampl	le Control Supe	rvisor (or designate) Review:	9/10	atom)	)	Date:	8-2-	02	
-	et Management		Alex	ary			DY-0	3-02-	_
LIOIC	r iviatiagement	REVIEW.	/- <u> </u>			T. 912:	<i></i>		-

SIGNED ORIGINAL MUST BE RETAINED IN THE PROJECT FILE
THIS FORM MUST BE COMPLETED AT THE TIME THE ITEMS ARE BEING CHECKED IF ANY ITEM IS COMPLETED BY SOMEONE OTHER THAN THE INITIATOR, THEN THAT PERSON IS REQUIRED TO APPLY THEIR INITIALS AND THE DATE NEXT TO THAT ITEM



STL St. Louis 13715 Rider Trail North Earth City, MO 63045

Tel 314 298 8566 Fax 314 298 8757 www.stl-inc.com

## **ANALYTICAL REPORT**

REVISED

Waste Characterization

Lot #: F2H200218

Rich Berggreen

STS Acquisitions Co. 750 Corporate Woods Parkway Vernon Hills, IL 60061

SEVERN TRENT LABORATORIES, INC.

John D. Powell Project Manager

September 3, 2002

## Revised Case Narrative LOT NUMBER: F2H200218

This report contains the analytical results for the two samples received under chain of custody by STL St. Louis on August 20, 2002. These samples are associated with your Waste Characterization project.

All applicable quality control procedures met method-specified acceptance criteria except as noted below.

This report is incomplete without the case narrative. All results are based upon sample as received, wet weight, unless noted otherwise.

## Observations/Nonconformances

Reference the chain of custody and condition upon receipt report for any variations on receipt conditions and temperature of samples on receipt.

This report has been revised to report only the pesticides of interest.

# Affected Samples: F2H200218 (1): H-6

#### **Affected Methods:**

8081A

#### Case Narrative:

The reporting limit for sample(s) F2H200218-1 and F2H210313-2, 3, 4, 5 is elevated due to the presence of interfering, non-target, compounds. The associated sample extracts were yellow to brown in color. Matrix interferences (large peaks) are observed in the sample chromatograms.

LOT# F2H200218-REV

## **METHODS SUMMARY**

## F2H200218

PARAMETER	ANALYTICAL METHOD	PREPARATION METHOD
Organochlorine Pesticides	SW846 8081A	SW846 3550
Percent Moisture	MCAWW 160.3 MOD	MCAWW 160.3 MOD

#### References:

MCAWW "Methods for Chemical Analysis of Water and Wastes", EPA-600/4-79-020, March 1983 and subsequent revisions.

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

## SAMPLE SUMMARY

#### F2H200218

WO #	SAMPLE	CLIENT SAMPLE ID	SAMPLED SAMP DATE TIME	
B6VCA	001	н-6	08/19/02 14:0	0
<b>E6VCK</b>	002	H-14	08/19/02 14:3	0
MOTE (8)	):			_

- The analytical results of the numples listed above the presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Rends aread as "ND" were not descend at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrowvity, density, flashpoint, ignitability, layers, odor, pass filter unit, pdf, porosity pressure, reactivity, roden potential, specific gravity, spot tests, solids, solubility, temperature, viscotity, and weight.

## Client Sample ID: H-6

## GC Semivolatiles

Lot-Sample #: F2H200218-001	Work Order #:	E6VCALAA	Matrix SOLID
Date Sampled: 08/19/02 14:00	Date Received:	08/20/02	
Prep Date: 08/22/02	Analysis Date:	08/27/02	
Prep Batch #: 2234216	Analysis Time:	17:16	
Dilution Factor: 50			
* Moisture: 9.6	Method:	SW846 8081	A
		REPORTING	
PARAMETER	RESULT	LIMIT	UNITS
Aldrin	49	1.9	ug/kg
alpha-BHC	ND	1.9	ug/kg
gamma-BHC (Lindane)	ND	1.9	ug/kg
Chlordane (technical)	13000	19	ug/kg
4,41-DDT	29	1.9	ug/kg
Dieldrin	51	1.9	ug/kg
Heptachlor	1400	1.9	ug/kg
Heptachlor epoxide	ND	7.4	ug/kg
	PERCENT	RECOVERY	

LIMITS

(50 - 151)

(64 - 131)

RECOVERY

0.0 DIL,NC

0.0 DIL,NC

## NOTE (S):

SURROGATE

Decachlorobiphenyl

Tetrachloro-m-xylene

Results and reporting limits have been adjusted for dry weight.

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

NC The recovery and/or RPD were not calculated.

Client Sample ID: H-6

## General Chemistry

Lot-Sample #...: F2H200218-001 Work Order #...: E6VCA Matrix.....: SOLID

Date Sampled...: 08/19/02 14:00 Date Received..: 08/20/02

* Moisture....: 9.6

 PARAMETER
 RESULT
 RL
 UNITS
 METHOD
 ANALYSIS DATE
 BATCH #

 Percent Noisture
 9.6
 0.10
 %
 MCANW 160.3 NOD
 08/26/02
 2238529

Dilution Factor: 1 Analysis Time..: 19:30

## Client Sample ID: H-14

#### GC Semivolatiles

Lot-Sample #:	F2H2Q0218-002	Work Order #:	E6VCKLAA	Matrix SOLID
Date Sampled:	08/19/02 14:30	Date Received:	08/20/02	
Prep Date:	08/22/02	Analysis Date:	08/26/02	
Prep Batch #:	2234216	Analysis Time:	16:46	
Dilution Factor:	1			

* Moisture....: 5.4 Method....: SW846 8081A

		REPORTING	
PARAMETER	RESULT	LIMIT	UNITS
Aldrin	ND	1.8	ug/kg
alpha-BHC	ND	1.8	ug/ <b>kg</b>
gamma-BHC (Lindane)	ND	1.8	ug/ <b>k</b> g
Chlordane (technical)	ND	18	ug/kg
4,4'-DDT	ND	1.8	ug/kg
Dieldrin	ND	1.8	ug/k <del>g</del>
Heptachlor	ND	1.8	ug/kg
Heptachlor epoxide	0.70 J,COL	7.1	ug/kg
	PERCENT	RECOVERY	
SURROGATE	RECOVERY LIMITS		_
Decachlorobiphenyl	100 (50 - 151)		
Tetrachloro-m-xylene	88	(64 - 131)	)

## NOTE(S):

Results and reporting limits have been adjusted for dry weight.

COL More than 40% difference between primary and confirmation column results. The lower of the two results is reported.

J Estimated result. Result is less than RL.

# STS ACQUISITIONS CO. dba STS COMS., LTD.

Client Sample ID: H-14

### General Chemistry

Lot-Sample #...: F2H200218-002 Work Order #...: E6VCK Matrix.....: SOLID

Date Sampled...: 08/19/02 14:30 Date Received..: 08/20/02

* Moisture....: 5.4

					PREPARATION-	PREP
PARAMETER	RESULT	RL	UNITS	METHOD	ANALYSIS DATE	BATCH #
Percent Moisture	5.4	0.10	8	MCASW 160.3 MOD	08/26/02	2238529

Dilution Factor: 1 Analysis Time..: 19:30

#### METHOD BLANK REPORT

#### GC Semivolatiles

Client Lot #...: F2H200218 Work Order #...: E61LW1AA Matrix.....: SOLID

MB Lot-Sample #: D2H220000-216

Prep Date....: 08/22/02 Analysis Time..: 17:16

Dilution Factor: 1

		REPORTI	NG	
PARAMETER	RESULT	LIMIT	UNITS	METHOD
Aldrin	ND	1.7	ug/kg	SW846 8081A
alpha-BHC	ND	1.7	ug/kg	SW846 8081A
gamma-BHC (Lindane)	ND	1.7	ug/kg	SW846 8081A
Chlordane (technical)	ND	17	ug/kg	SW846 8081A
4,4'-DDT	ND	1.7	ug/kg	SW846 8081A
Dieldrin	ND	1.7	ug/kg	SW846 8081A
Heptachlor	ND	1.7	ug/kg	SW846 8081A
Heptachlor epoxide	ND	6.7	ug/kg	SW846 8081A
	PERCENT	RECOVERS	č.	
SURROGATE	RECOVERY	LIMITS		
Decachlorobiphenyl	99	(50 - 19	51)	
Tetrachloro-m-xylene	100	(64 - 13	31)	

#### Note (S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

#### LABORATORY CONTROL SAMPLE EVALUATION REPORT

#### GC Semivolatiles

Client Lot #...: F2H200218 Work Order #...: E61LW1AC Natrix.....: SOLID

LCS Lot-Sample#: D2H220000-216

 Prep Date....: 08/22/02
 Analysis Date..: 08/26/02

 Prep Batch #...: 2234216
 Analysis Time..: 14:49

Dilution Factor: 1

	PERCENT	RECOVERY	
PARAMETER	RECOVERY	LIMITS	MBTHOD
Aldrin	93	(72 - 129)	SW846 8081A
game-MRC (Lindane)	92	(69 ~ 131)	SW846 8081A
Endrin	96	(70 - 137)	SW846 8081A
4,4'-DDT	87	(65 - 150)	SW846 8081A
Dieldrin	92	(73 - 133)	SW846 8081A
Heptachlor	98	(63 - 146)	SW846 8081A
		PERCENT	RECOVERY
SURROGATE		RECOVERY	<u>LIMITS</u>
Decachlorobiphenyl		94	(50 - 151)
Tetrachloro-m-xylene		102	(64 - 131)

HOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print dresses control parameters

PARAMETER

Aldrin

#### MATRIX SPIKE SAMPLE EVALUATION REPORT

#### GC Semivolatiles

Client Lot #...: F2H200218 Work Order #...: E6VCA1AD-MS Watrix.....: SOLID

RECOVERY

(72 - 129)

(72 - 129)

LIMITS

RPD

RPD

LIMITS

(0-30)

METHOD

SW846 8081A

SW846 8081A

MS Lot-Sample #: F2H200218-001 E6VCA1AE-MSD

 Date Sampled...:
 08/19/02 14:00 Date Received...:
 08/20/02

 Prep Date.....:
 08/22/02 Analysis Date...:
 08/27/02

 Prep Batch #...:
 2234216 Analysis Time...:
 17:45

 Dilution Factor:
 50 Moisture....:
 9.6

PERCENT

NC, DIL

NC, DIL

RECOVERY

gamma-BHC (Lindane)	NC, DIL	(69 - 131)		SW846 8081A
	NC, DIL	(69 - 131)	(0-30)	SW846 8081A
Endrin	NC, DIL	(70 - 137)		SW846 8081A
	NC, DIL	(70 - 137)	(0-30)	SW846 8081A
4,4'-DDT	NC, DIL	(65 - 150)		SW846 8081A
	NC, DIL	(65 - 150)	(0-30)	SW846 8081A
Dieldrin	NC, DIL	(73 - 133)		SW846 8081A
	NC, DIL	(73 - 133)	(0-30)	SW846 8081A
Heptachlor	MC, DIL	(63 - 146)		SW846 8081A
	NC, DIL	(63 - 146)	(0-30)	SW846 8081A
		PERCENT	RECOVERY	7
SURROGATE		RECOVERY	LIMITS	
Decachlorobiphenyl		0.0	(50 - 15	(1)
	Qualif	iers: DIL,NC		
		0.0	(50 - 15	51)
	Qualif	iers: DIL,NC		
Tetrachloro-m-xylene		0.0	(64 - 13	1)
	Qualif	fiers: DIL,NC		
		0.0	(64 - 13	1)
	Qualif	iers: DIL,NC		

#### NOTE (S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

NC The recovery and/or RPD were not calculated.

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

11

PSL20300

SEVERN TRENT LABORATORIES, INC Run Date: 8/21/02
CLIENT ANALYSIS SUMMARY Time: 15:46:27
STL St. Louis User Id.: POWELLJ Page 1

CLIENT: 378708 STS ACQUISITIONS CO. dba STS CONS., LTD. QUOTE/SAR #: 43710

PROJECT MANAGER: John D. Powell LAB ID: F-2H200218-001

WORK ORDER: E6VCA PROJECT #:

Rich Berggreen RECEIVING DATE: 8/20/02 REPORT TO: SAMPLING DATE: 8/19/02 P.O. NUMBER:

ANALYTICAL DUE DATE: 8/27/02N SITE: Waste Characterization

REPORT DUE DATE: 8/27/02 AMOUNT REC"D: 120G

PRIORITY: 07 STORAGE LOC: R158

LOT COMMENTS: SAMPLING TIME: 14:00 MATRIX: SOLID RECEIVING TIME: 8:00

USAF MATRIX: SAMPLE ID: H-6

OC PACKAGE: Report SDG# :

SAMPLE COMMENTS:

Beginning Depth: .00 Ending Depth: .00

WRK REQUEST EXTRACTION ANALYSIS

***** ANALYSIS ***** LOC DATE EXP DATE EXP DATE

04 8/21/02 9/02/02 10/12/02 Pesticides (8081A)

SONICATION - Low Level

Q: SW846 Method 8081A Standard List

(A-13-QJ-01) E6VCA-1-AA Protocol: A QC Program: STANDARD TEST SET

Moisture, Percent (160.3) 04 8/21/02 0/00/00 11/26/02

NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION

(A-88-WM-01) E6VCA-1-AC Protocol: A QC Program: STANDARD TEST SET

PSL20300 Page 1 SEVERN TRENT LABORATORIES, INC CLIENT ANALYSIS SUMMARY

STL St. Louis

Run Date: 8/21/02

Time: 15:46:27 User Id.: POWELLJ

CLIENT: 378708 STS ACQUISITIONS CO. dba STS CONS., LTD. QUOTE/SAR #: 43710

PROJECT MANAGER: John D. Powell LAB ID: F-2H200218-002

PROJECT #: WORK ORDER: E6VCK

REPORT TO: Rich Berggreen RECEIVING DATE: 8/20/02

P.O. NUMBER: SAMPLING DATE: 8/19/02 ANALYTICAL DUE DATE: 8/27/02N SITE: Waste Characterization

AMOUNT REC"D: 120G REPORT DUE DATE: 8/27/02

STORAGE LOC: R158 PRIORITY: 07

SAMPLING TIME: 14:30 LOT COMMENTS: RECEIVING TIME: MATRIX: SOLID 8:00

USAF MATRIX: SAMPLE ID: H-14

SDG# : QC PACKAGE: Report

SAMPLE COMMENTS:

Beginning Depth: .00 Ending Depth: .00

WRK REQUEST EXTRACTION ANALYSIS ***** ANALYSIS ***** DATE EXP DATE EXP DATE <u>LOC</u>

04 8/21/02 9/02/02 Pesticides (8081A) 10/12/02

SONICATION - Low Level

Q: SW846 Method 8081A Standard List

(A-13-QJ-01) E6VCK-1-AA Protocol: A QC Program: STANDARD TEST SET

Moisture, Percent (160.3) 04 8/21/02 0/00/00 11/26/02

NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION

(A-88-WM-01) E6VCK-1-AC Protocol: A QC Program: STANDARD TEST SET

Run Date: 08/21/2002 STL Denver PSL233 GC SEMI-VOLATILE ANALYSIS WORKSHEET Time: 15:46 User Id.: REVIEW DATE/BY: WORK ORDER: E6VCA-1-AA QUOTE #: 43710 CLIENT CODE: 378708 PROJECT MANAGER: John D. Powell LAB NUMBER: F2H200218-001 SITE: Waste Characterization STORAGE LOC: R158 AMT. REC"D: 120G SAMPLE ID: H-6 SAMPLING DATE: 8/19/02 OC PACKAGE: Report QC PROGRAM: STANDARD TEST SET 8/20/02 RECEIVING DATE: ANALYSIS CODE: XX-A-13-QJ-01 GC8081 S QC BATCH: SOLID, 8081A, Pesticides (Denver) SAMPLE COMMENTS: ANALYTICAL DUE DATE: 8/27/02N ANALYSIS COMMENTS: METHOD: SOLID, 8081A, Pesticides (Denver) LIST: - 02227 Q: SW846 Method 8081A Standard List MATRIX: SOLID EXPIRATION: EXTR ANALYSIS 9/02/02 10/12/02 EXTRACTION: SONICATION - Low Level ANALYSIS: INSTRUMENT ID: INITIAL: 0 CLEANUP: **RUN #:** FINAL: .00 SPIKE: DATE: SURROGATE: SOLVENT: BY: DATE/BY: 0/00/00 ___ DRY WT: (DL) FACTOR: COMMENTS: CALIBRATION DATE: * * * * * * * * * * * * * * * * * * * * UNITS: ug/kg Dry Weighted Endosulfan I . . . . . . . 1.7 Endosulfan II. . . . . . . . 1.7 Endosulfan sulfate . . . . . 1.7 Heptachlor . . . . . . . . 1.7 Heptachlor epoxide . . . . . 6.7 Methoxychlor . . . . . . . . . 3.3 Toxaphene. . . . . . . . . . . . . . . . . 170 Aldrin . . . . . . . . . . . 1.7 alpha-BHC. . . . . . . . . . 1.7 beta-BHC . . . . . . . . . . . 1.7 delta-BHC. . . . . . . . . 1.7 gamma-BHC (Lindane). . . . . 1.7 Chlordane (technical). . . . . 17 4,4'-DDD . . . . . . . . . . 1.7 4,4'-DDB . . . . . . . . . . 1.7 4,4'-DDT . . . . . . . . . . . 1.7 Dieldrin . . . . . . . . . . . 1.7 Endrin aldehyde. . . . . . . 1.7 * SURROGATE RECOVERIES * Decachlorobiphenyl (050 - 151 Tetrachloro-m-xylene (064 - 131

PSL233

Severn Trent Laboratories, Inc GC SEMI-VOLATILE ANALYSIS WORKSHEET Run Date: 08/21/2002

Time: 15:46

User Id.:

REVIEW DATE/BY: WORK ORDER: E6VCK-1-AA CLIENT CODE: 378708 OUOTE #: 43710 PROJECT MANAGER: John D. Powell LAB NUMBER: F2H200218-002 SITE: Waste Characterization STORAGE LOC: R158 AMT. REC"D: 120G SAMPLE ID: H-14 QC PACKAGE: Report SAMPLING DATE: 8/19/02 OC PROGRAM: STANDARD TEST SET RECEIVING DATE: 8/20/02 ANALYSIS CODE: XX-A-13-QJ-01 GC8081 S QC BATCH: SOLID, 8081A, Pesticides (Denver) SAMPLE COMMENTS: ANALYTICAL DUE DATE: 8/27/02N ANALYSIS COMMENTS: METHOD: SOLID, 8081A, Pesticides (Denver) LIST: - 02227 Q: SW846 Method 8081A Standard List EXPIRATION: EXTR ANALYSIS MATRIX: SOLID EXTRACTION: SONICATION - Low Level 9/02/02 10/12/02 ANALYSIS: INSTRUMENT ID: CLEANUP: INITIAL: 0 RUN #: FINAL: .00 SPIKE: DATE: SOLVENT: SURROGATE: BY: PATE/BY: 0/00/00 DRY WT: % (DL) FACTOR: COMMENTS: CALIBRATION DATE: * * * * * * * * * * * * * * * * * * UNITS: ug/kg Dry Weighted alpha-BHC. . . . . . . . . . 1.7 beta-BHC . . . . . . . . . . 1.7 delta-BHC. . . . . . . . . . 1.7 gamma-BHC (Lindane).....1.7 Chlordane (technical). . . . . 17 4,4'-DDD . . . . . . . . . 1.7 4,4'-DDE . . . . . . . . . . 1.7 4,4'-DDT . . . . . . . . . . . 1.7 Dieldrin . . . . . . . . . . 1.7 Endrin . . . . . . . . . . . . 1.7
Endrin aldehyde. . . . . . . . 1.7 Endosulfan I . . . . . . . . 1.7 Endosulfan II. . . . . . . . 1.7 Endosulfan sulfate . . . . . 1.7 Heptachlor . . . . . . . . . 1.7 Heptachlor epoxide . . . . . 6.7 Methoxychlor . . . . . . . . 3.3 Toxaphene. . . . . . . . . . . . . . . . . 170 * SURROGATE RECOVERIES *

(050

(064

- 151

- 131

Decachlorobiphenyl

Tetrachloro-m-xylene

3	Chain of
3	Custody Record



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Non Hazard Flummable Skin Irritant un Around Time Required		Unknown		] Ho	turn T	o Clle	int				V LAD			chiv <b>e</b> Fo	or		Mo	nthe		er than 1			
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# Condition Upon Receipt Form St. Louis Laboratory

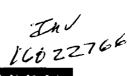
Client:_	STS	Date: <u>08-20-02</u> Time: <u>1040</u>
Quote N	To: 43710	Initiated by: J. Klos Hosensi'
Shipper	No: FedEx 831429584063	COC/RFA Numbers: 147688
Conditi	on/Variance (Circle "Y" for yes and "N" for	no. If "N" is circled, see notes for explanation):
1.	N Sample received in undamaged condition	on. 5. (Ŷ)N Sample volume sufficient for analysis.
2.	Sample received within 4-C ± 2-C*	<ol> <li>Sample received with Chain of Custody.</li> </ol>
	Record temperature: 2°C	7. (Y)N Chain of Custody matches sample IDs on containers.
3.	N/A Sample received with proper pH**.	8. YN Custody seal received intact and tamper evident on cooler.
4.	Sample received in proper containers.	<ol> <li>Custody seal received intact and tamper evident on bottles.</li> </ol>
_	rature Variance Does Not Affect the Following Ar	
	OE-AL (Pantex, LANL, Sandia, Timet) sites, rem	sember to pH all containers received, except for VOA, TOX, and soils.
Notes:		
	Vo custody seals or	containers.
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<del></del>		
		•
<del></del>		
Correctiv	ve Action:	
	Client's Name:	Informed verbally on: By:
	Client's Name:	Informed in writing on: By:
	Sample(s) processed "as is".	
	Sample(s) on hold until:	If released, notify:
Sample C	Control Supervisor (or designate) Review:	V Ly / 1 Date: 08-20-03-
•		2 - ( )
Project N	fanagement Review:	Date: 01-21-02
	growing ordered	E ANTENNA DES MANOS ESTADOS DE PROPERTO DINOS ESTADOS DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO DE PROPERTO

SIGNED OXIGINAL MUST BE RETAINED IN THE PROJECT FILE

THIS FORM MUST BE COMPLETED AT THE TIME THE ITEMS ARE BEING CHECKED

IF ANY ITEM IS COMPLETED BY SOMEONE OTHER THAN THE INITIATOR, THEN THAT PERSON IS REQUIRED TO APPLY THEIR

INITIALS AND THE DATE NEXT TO THAT ITEM





**STL St. Louis** 13715 Rider Trail North Earth City, MO 63045

Tel 314 298 8566 Fax 314 298 8757 www.sti-inc.com

# ANALYTICAL REPORT

REVISED

Waste Characterization

Lot #: F2H010233

Rich Berggreen

STS Acquisitions Co. 750 Corporate Woods Parkway Vernon Hills, IL 60061

SEVERN TRENT LABORATORIES, INC.

For ' John D. Powell Project Manager

August 16, 2002

#### Case Narrative LOT NUMBER: F2H010233

This report contains the analytical results for the four samples received under chain of custody by STL St. Louis on August 1, 2002. These samples are associated with your Waste Characterization project.

All applicable quality control procedures met method-specified acceptance criteria except as noted below.

This report is incomplete without the case narrative. All results are based upon sample as received, wet weight, unless noted otherwise.

#### Observations/Nonconformances

Reference the chain of custody and condition upon receipt report for any variations on receipt conditions and temperature of samples on receipt.

### **Affected Samples:**

F2H010233 (1): F-8 F2H010233 (3): H-10 F2H010233 (2): H-6 F2H010233 (4): H-12

#### Affected Methods:

8081A

#### Case Narrative:

The MS recovery for delta-BHC for sample F2H010156-002 (E5P0P1AK) is outside the established lower QC limits. The RPD is within method acceptance criteria indicating a possible matrix interference. Method performance is demonstrated by acceptable LCS recovery. Results are provided with this narrative.

The samples were analyzed at a dilution due to the presence of matrix interferences. The reporting limit has been adjusted for the dilution.

# **METHODS SUMMARY**

#### F2H010233

PARAMETER	ANALYTICAL METHOD	PREPARATION METHOD
Organochlorine Pesticides Percent Moisture	SW846 8081A MCAWW 160.3 MOD	SW846 3550 MCAWW 160.3 MOD

#### References:

MCAWW "Methods for Chemical Analysis of Water and Wastes", EPA-600/4-79-020, March 1983 and subsequent revisions.

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

LOT# F2H010233

3

# SAMPLE SUMMARY

#### F2H010233

WO \$	SAMPLE	CLIENT SAMPLE ID	SAMPLED SAM DATE TIM	
E5QGC	001	F-0	07/31/02 08:	:30
<b>B5QGG</b>	002	н-6	07/31/02 08:	:45
E5QGH	003	H-10	07/31/02 09:	:15
E5QGJ	004	H-12	07/31/02 09:	:45

#### HOTE(S):

- The analytical sensits of the samples fisted above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "NO" were not described at or above the stand lumin.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corresevery, density, flashpoint, ignitability, layers, odor, pass filter test, pH, peroxity pressure, reactivity, rodox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

### STS ACQUISITIONS CO. dba STS CONS., LTD.

### Client Sample ID: F-8

#### GC Semivolatiles

Lot-Sample #: F2H010233-001 Date Sampled: 07/31/02 08:30 Prep Date: 08/02/02 Prep Batch #: 2214119 Dilution Factor: 20		08/01/02 08/08/02	Matrix: SOLID
* Moisture: 5.2	Method:	SW846 8081	A
		REPORTING	
PARAMETER	RESULT	LIMIT	UNITS
Heptachlor	ND	36	ug/kg
Heptachlor epoxide	ND	36	ug/kg
Aldrin	ND	36	ug/kg
Chlordane (technical)	ND	360	ug/kg
alpha-BHC	ND	36	ug/kg
gamma-BHC (Lindane)	ND	36	ug/kg
4,4'-DDT	ND	36	ug/kg

36

ug/kg

	PERCENT	RECOVERY
SURROGATE	RECOVERY	LIMITS
Tetrachloro-m-xylene	0.0 DIL	(57 - 116)
Decachlorobiphenyl	0.0 DIL	(45 - 147)

ND

# NOTE(S):

Dieldrin

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

Results and reporting limits have been adjusted for dry weight.

#### STS ACQUISITIONS CO. dba STS COMS., LTD.

Client Sample ID: F-8

#### General Chemistry

Lot-Sample #...: F2H010233-001 Work Order #...: E5QGC Matrix.....: SOLID

Date Sampled...: 07/31/02 08:30 Date Received..: 08/01/02

* Moisture....: 5.2

 PARAMETER
 RESULT
 RL
 UNITS
 METHOD
 ANALYSIS DATE
 BATCH #

 Percent Noisture
 5.2
 0.10
 %
 MCANW 160.3 MOD
 08/02-08/05/02
 2214392

Dilution Factor: 1 Analysis Time..: 00:04

### STS ACQUISITIONS CO. dba STS CONS., LTD.

### Client Sample ID: H-6

#### GC Semivolatiles

Lot-Sample #:	F2H010233-002	Work Order #;	E5QGG1AA	Matrix:	SOLID

 Date
 Sampled...:
 07/31/02
 08:45
 Date
 Received...:
 08/01/02

 Prep
 Date...:
 08/02/02
 Analysis
 Date...:
 08/08/02

 Prep
 Batch #...:
 2214119
 Analysis
 Time...:
 02:47

Dilution Factor: 20

* Moisture....: 13 Method....: SW846 8081A

		REPORTIN	IG
PARAMETER	RESULT	LIMIT	UNITS
Heptachlor	360	39	ug/kg
Heptachlor epoxide	ND	39	ug/kg
Aldrin	ND	39	ug/kg
Chlordane (technical)	ND	390	ug/kg
alpha-BHC	ND	39	ug/kg
gamma-BHC (Lindane)	ND	39	ug/kg
4,4'-DDT	ND	39	ug/kg
Dieldrin	ND	39	ug/kg
	PERCENT	RECOVERY	
SURROGATE	RECOVERY	LIMITS	
Tetrachloro-m-xylene	0.0 DIL	(57 - 11	.6)
Decachlorobiphenyl	0.0 DIL	(45 - 14	7)

#### NOTE (S):

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analyses.

Results and reporting limits have been adjusted for dry weight.

#### STS ACQUISITIONS CO. dba STS COMS., LTD.

#### Client Sample ID: H-6

#### General Chemistry

Lot-Sample #...: F2H010233-002 Work Order #...: E5QGG Matrix....: SOLID

Date Sampled...: 07/31/02 08:45 Date Received..: 08/01/02

*** Moisture....:** 13

PREPARATION- PREP | RESULT | RL | UNITS | METHOD | ANALYSIS DATE | BATCH # | 12.6 | 0.10 | % | MCANN 160.3 | MOD | 08/02-08/05/02 | 2214392 PARAMETER Percent Moisture

Dilution Factor: 1 Analysis Time..: 00:04

### STS ACQUISITIONS CO. dba STS CONS., LTD.

Client Sample ID: H-10

#### GC Semivolatiles

Lot-Sample #:	F2H010233-003	Work Order #:	E5QGH1AA	Matrix SOLID
Date Sampled:	07/31/02 09:15	Date Received:	08/01/02	
Prep Date:	08/02/02	Analysis Date:	08/08/02	
Prep Batch #:	2214119	Analysis Time:	03:06	
Dilution Factor:	20			
* Moisture:	19	Method:	SW846 8081A	

		REPORTING	
PARAMETER	RESULT	LIMIT	UNITS
Heptachlor	ND	42	ug/kg
Heptachlor epoxide	ND	42	ug/kg
Aldrin	ND	42	ug/kg.
Chlordane (technical)	ND	420	ug/kg // ///
alpha-BHC	ND	42	ug/kg / //// /
gamma-BHC (Lindane)	ND	42	ug/kg  ug/kg  ug/kg  ug/kg  ug/kg  ug/kg  ug/kg  ug/kg  ug/kg  ug/kg  ug/kg  ug/kg
4,4'-DDT	ND	42	ug/kg
Dieldrin	ND	42	ug/kg
	PERCENT	RECOVERY	
SURROGATE	RECOVERY	LIMITS	_
Tetrachloro-m-xylene	0.0 DIL	(57 - 116	<del>)</del>
Decachlorobiphenyl	0.0 DIL	(45 - 147	)

### NOTE (S):

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

Results and reporting limits have been adjusted for dry weight.

### STS ACQUISITIONS CO. dba STS COMS., LTD.

Client Sample ID: H-10

#### General Chemistry

Lot-Sample #...: F2H010233-003 Work Order #...: E5QGH Matrix.....: SOLID

Date Sampled...: 07/31/02 09:15 Date Received..: 08/01/02

* Moisture....: 19

 PARAMETER
 RESULT
 RL
 UNITS
 METHOD
 ANALYSIS DATE
 BATCH #

 Percent Hoisture
 19.1
 0.10
 %
 MCARW 160.3 MOD
 08/02-08/05/02
 2214392

Dilution Factor: 1 Analysis Time..: 00:04

# STS ACQUISITIONS CO. dba STS CONS., LTD.

#### Client Sample ID: H-12

#### GC Semivolatiles

Lot-Sample #...: F2H010233-004 Work Order #...: E5QGJ1AA Matrix.....: SOLID

 Date Sampled...:
 07/31/02 09:45
 Date Received...:
 08/01/02

 Prep Date.....:
 08/02/02
 Analysis Date...:
 08/08/02

 Prep Batch #...:
 2214119
 Analysis Time...:
 03:25

Dilution Factor: 20

* Moisture....: 12 Method.....: SW846 8081A

		REPORTIN	īG
PARAMETER	RESULT	LIMIT	UNITS
Heptachlor	ND	39	ug/kg
Heptachlor epoxide	ND	39	ug/kg
Aldrin	ND	39	ug/kg
Chlordane (technical)	ND	390	ug/kg
alpha-BHC	ND	39	ug/kg
gamma-BHC (Lindane)	ND	39	ug/kg
4,4'-DDT	ND	39	ug/kg
Dieldrin	ND	39	ug/kg
	PERCENT	RECOVERY	•
SURROGATE	RECOVERY	LIMITS	
Tetrachloro-m-xylene	0.0 DIL	(57 - 11	.6)
Decachlorobiphenyl	0.0 DIL	(45 - 14	.7)

# NOTE (S):

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

Results and reporting limits have been adjusted for dry weight.

LOT# F2H010233 11

#### STS ACQUISITIONS CO. dba STS COMS., LTD.

Client Sample ID: H-12

#### General Chemistry

Lot-Sample #...: F2H010233-004 Work Order #...: E5QGJ Matrix.....: SOLID

Date Sampled...: 07/31/02 09:45 Date Received..: 08/01/02

* Moisture....: 12

 PARAMETER
 RESULT
 RL
 UNITS
 METHOD
 ANALYSIS DATE
 BATCH #

 Percent Moisture
 11.7
 0.10
 %
 MCANN 160.3 NOD
 08/02-08/05/02
 2214392

Dilution Factor: 1 Analysis Time..: 00:04

### METHOD BLANK REPORT

#### GC Semivolatiles

Client Lot #...: F2H010233 Work Order #...: E5RQ21AA Matrix.....: SOLID

MB Lot-Sample #: F2H020000-119

Prep Date....: 08/02/02 Analysis Time..: 18:42

Dilution Factor: 1

		REPORTI	NG	
PARAMETER	RESULT	LIMIT	UNITS	METHOD
Heptachlor	ND	1.7	ug/kg	SW846 8081A
Heptachlor epoxide	ND	1.7	ug/kg	SW846 8081A
Aldrin	ND	1.7	ug/kg	SW846 8081A
Chlordane (technical)	ND	17	ug/kg	SW846 8081A
alpha-BHC	ND	1.7	ug/kg	SW846 8081A
gamma-BHC (Lindane)	ND	1.7	ug/kg	SW846 8081A
4,4'-DDT	ND	1.7	ug/kg	SW846 8081A
Dieldrin	ND	1.7	ug/kg	SW846 8081A
	PERCENT	RECOVER	Y	
SURROGATE	RECOVERY	LIMITS		
Tetrachloro-m-xylene	79	(57 - 1	16)	
Decachlorobiphenyl	94	(45 - 14	47)	

NOTE (S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LOT# F2H010233 13

#### LABORATORY CONTROL SAMPLE EVALUATION REPORT

#### GC Semivolatiles

Client Lot #...: F2H010233 Work Order #...: E5RQ21AC Matrix.....: SOLID

LCS Lot-Sample#: F2H020000-119

 Prep Date....:
 08/02/02
 Analysis Date..:
 08/07/02

 Prep Batch \$...:
 2214119
 Analysis Time..:
 19:01

Dilution Factor: 1

	PERCENT	RECOVERY	
PARAMETER	RECOVERY	LIMITS	METHOD
Beptachlor	119	(58 - 150)	SW846 8081A
Beptachlor epoxide	119	(62 - 150)	SW846 8081A
Aldrin	112	(57 - 150)	SW846 8081A
alpha-BBC	109	(56 - 150)	SW846 8081A
gamma-BBC (Lindane)	115	(59 - 150)	SW846 8081A
Endrin	134	(62 - 150)	SW846 8081A
4,4'-DDT	147	(66 - 150)	SW846 8081A
Dieldrin	122	(57 - 150)	SW846 8081A
beta-BBC	113	(53 - 150)	SW846 8081A
delta-BBC	79	(49 - 141)	SW846 B081A
alpha-Chlordane	121	(57 - 150)	SW846 8081A
gama-Chlordane	119	(58 - 150)	SW846 8081A
4,4'-DDD	126	(60 - 149)	SW846 8081A
4,4'-DDE	118	(65 - 150)	SW846 8081A
Endosulfan I	121	(60 - 146)	SW846 8081A
Endosulfan II	122	(59 - 150)	SW846 8081A
Endosulfan sulfate	111	(59 - 148)	SW846 8081A
Endrin aldehyde	109	(43 - 150)	SW846 8081A
Endrin ketone	127	(61 - 150)	SW846 8081A
Methoxychlor	135	(62 - 150)	SW846 8081A
		PERCENT	RECOVERY
SURROGATE		RECOVERY	LIMITS
Tetrachloro-m-xylene		102	(66 - 133)
Decachlorobiphenyl		125	(59 - 146)

-	
B	

Calculations are performed before rounding to avoid round-off errors as calculated results.

Bold print denotes control parameters

#### MATRIX SPIKE SAMPLE EVALUATION REPORT

#### GC Semivolatiles

Client Lot #...: F2H010233 Work Order #...: E5P0P1AK-MS Matrix.....: SOLID

MS Lot-Sample #: F2H010156-002 E5P0P1AL-MSD

 Date Sampled...:
 07/26/02
 Date Received...:
 07/31/02

 Prep Date.....:
 08/02/02
 Analysis Date...:
 08/07/02

 Prep Batch #...:
 2214119
 Analysis Time...:
 19:38

 Dilution Factor:
 1
 Moisture.....:
 6.6

	PERCENT	RECOVERY		RPD	
PARAMETER	RECOVERY	LIMITS	RPD	LIMITS	METHOD
Heptachlor	92	(52 - 150)			SW846 8081A
-	103	(52 - 150)	11	(0-30)	SW846 8081A
Heptachlor epoxide	90	(73 - 124)			SW846 8081A
	103	(73 - 124)	12	(0-30)	SW846 8081A
Aldrin	86	(70 - 115)			SW846 8081A
	97	(70 - 115)	12	(0-30)	SW846 8081A
alpha-BHC	80	(72 - 115)			SW846 8081A
	92	(72 - 115)	13	(0-30)	SW846 8081A
gamma-BHC (Lindane)	86	(80 - 117)			SW846 8081A
	98	(80 - 117)	12	(0-30)	SW846 8081A
Rodrin	101	(85 - 125)			SW846 8081A
	117	(85 - 125)	14	(0-30)	SW846 8081A
4,4'-DDT	109	(66 - 150)			SW846 8081A
	126	(66 - 150)	14	(0-30)	SW846 8081A
Dieldrin	92	(62 - 145)			SW846 8081A
	105	(62 - 145)	13	(0~30)	SW846 8081A
beta-BHC	89	(29 - 150)			SW846 8081A
	101	(29 - 150)	13	(0-30)	SW846 8081A
delta-BHC	57 a	(62 - 115)			SW846 8081A
	66	(62 - 115)	14	(0-30)	SW846 8081A
alpha-Chlordane	90	(10 - 150)			SW846 8081A
	104	(10 - 150)	14	(0-30)	SW846 8081A
gamma-Chlordane	90	( <b>4</b> 5 - 150)			SW846 8081A
	103	(45 - 150)	13	(0-30)	SW846 8081A
4,4'-DDD	93	(59 <b>~ 149</b> )			SW846 8081A
	105	(59 - 149)	12	(0-30)	SW846 8081A
4,4'-DDE	93	(73 - 123)			SW846 8081A
	108	(73 - 123)	14	(0-30)	SW846 8081A
Rndosulfan I	89	(73 - 118)			SW846 8081A
	103	(73 - 118)	14	(0-30)	SW846 8081A
Rndosulfan II	92	(78 - 115)			SW846 8081A
	106	(78 - 115)	13	(0-30)	SW846 8081A
Rndosulfan sulfate	84	(75 - 115)		4	SW846 8081A
	95	(75 - 115)	12	(0-30)	SW846 8081A
Endrin aldehyde	83	(40 - 132)			SW846 8081A
	92	(40 - 132)	10	(0-30)	SW846 8081A
Endrin ketone	95	(70 - 139)			SW846 8081A
	108	(70 - 139)	12	(0-30)	SW846 8081A
Methoxychlor	101	(85 - 145)			SW846 8081A
	117	(85 - 145)	14	(0-30)	SW846 8081A

(Continued on next page)

15

### MATRIX SPIKE SAMPLE EVALUATION REPORT

#### GC Semivolatiles

Client Lot #...: F2H010233 Work Order #...: B5P0P1AK-MS Matrix.....: SOLID

MS Lot-Sample #: F2H010156-002 E5P0P1AL-MSD

	PERCENT	RECOVERY
SURROGATE	RECOVERY	LIMITS
Tetrachloro-m-xylene	83	(57 - 116)
-	90	(57 - 116)
Decachlorobiphenyl	96	(45 - 147)
•	107	(45 - 147)

EOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated restals.

Bold print denous control parameters

Results and separating limits have been adjusted for dry weight.

a Spilled analyte receivery is comide stated control limits.

#### SAMPLE DUPLICATE EVALUATION REPORT

#### General Chemistry

Client Lot #...: F2H010233 Work Order #...: E5RE9-SMP Matrix.....: SOLID

E5RE9-DUP

Date Sampled...: 07/26/02 Date Received..: 07/31/02

* Moisture:	7.7						
	DUPLICATE			RPD		PREPARATION-	PRBP
PARAM RESULT	RESULT	UNITS	RPD	LIMIT	METHOD	ANALYSIS DATE	BATCH #
Percent Moisture		-			SD Lot-Sample #:	F2H010348-013	
7.7	7.7	*	0.0	(0-30)	MCAWW 160.3 MOD	08/02-08/05/02	2214392
	I	ilution Fact	or: 1	Ana	lysis Time: 00:04		

PSL20300 PSL20300 Page 1 SEVERN TRENT LABORATORIES, INC. Run Date: 8/02/02
CLIENT ANALYSIS SUMMARY Time: 6:38:28
STL St. Louis User Id.: POWELLJ

Time: 6:38:28

CLIENT: 378708 STS ACQUISITIONS CO. dba STS CONS., LTD. QUOTE/SAR #: 43710

PROJECT MANAGER: John D. Powell LAB ID: F-2H010233-001

PROJECT #: WORK ORDER: ESQGC

Rich Berggreen REPORT TO: RECEIVING DATE: 8/01/02

SAMPLING DATE: 7/31/02 P.O. NUMBER:

ANALYTICAL DUE DATE: 8/06/02N SITE: Waste Characterization REPORT DUE DATE: 8/06/02 AMOUNT REC"D: 120G

STORAGE LOC: R47 PRIORITY: 05

SAMPLING TIME: 8:30 LOT COMMENTS:

MATRIX: SOLID RECEIVING TIME: 9:15

USAF MATRIX: SAMPLE ID: F-8

QC PACKAGE: Report SDG# :

SAMPLE COMMENTS:

Beginning Depth: .00 Ending Depth: .00

WRK REQUEST EXTRACTION ANALYSIS ***** ANALYSIS *****

LOC DATE EXP DATE SXP DATE

Moisture, Percent (160.3) 06 8/02/02 0/00/00 11/07/02

NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION

(A-88-WM-01) E5QGC-1-AC Protocol: A QC Program: STANDARD TEST SET

06 8/01/02 8/14/02 9/11/02 Pesticides (8081A)

SONICATION - Low Level STL: Pesticides by 8081A

(A-13-QJ-01) E5QGC-1-AA Protocol: A QC Program: STANDARD TEST SET

PSL20300 Page 1 SEVERN TRENT LABORATORIES, INC. Run Date: 8/02/02
CLIENT ANALYSIS SUMMARY Time: 6:38:29
STL St. Louis User Id.: POWELLJ

STL St. Louis

User Id.: POWELLJ

CLIENT: 378708 STS ACQUISITIONS CO. dba STS CONS., LTD. QUOTE/SAR #: 43710

PROJECT MANAGER: John D. Powell LAB ID: F-2H010233-002

PROJECT #: WORK ORDER: E5QGG

Rich Berggreen RECEIVING DATE: 8/01/02 REPORT TO:

SAMPLING DATE: 7/31/02 P.O. NUMBER: SITE: Waste Characterization ANALYTICAL DUE DATE: 8/06/02N

AMOUNT REC"D: 120G REPORT DUE DATE: 8/06/02 STORAGE LOC: R47 PRIORITY: 05

SAMPLING TIME: LOT COMMENTS:

MATRIX: SOLID RECEIVING TIME: 9:15

USAF MATRIX: SAMPLE ID: H-6

QC PACKAGE: Report SDG# :

SAMPLE COMMENTS:

Beginning Depth: .00 Ending Depth: .00

WRK REQUEST EXTRACTION ANALYSIS ***** ANALYSIS ***** DATE LOC EXP DATE EXP DATE

06 Moisture, Percent (160.3) 8/02/02 0/00/00 11/07/02

NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION

(A-88-WM-01) E5QGG-1-AC Protocol: A QC Program: STANDARD TEST SET

Pesticides (8081A) 06 8/01/02 8/14/02 9/11/02

SONICATION - Low Level STL: Pesticides by 8081A

(A-13-QJ-01) E5QGG-1-AA Protocol: A QC Program: STANDARD TEST SET

#### STL ST. LOUIS

PSL20300 Page 1 SEVERN TRENT LABORATORIES, INC. Run Date: 8/02/02
CLIENT ANALYSIS SUMMARY Time: 6:38:29
STL St. Louis User Id.: POWELLJ

Time: 6:38:29

CLIENT: 378708 STS ACQUISITIONS CO. dba STS CONS., LTD. QUOTE/SAR #: 43710

LAB ID: F-2H010233-003 PROJECT MANAGER: John D. Powell

PROJECT ::

WORK ORDER: BSQGH

Rich Berggreen REPORT TO: RECEIVING DATE: 8/01/02

SAMPLING DATE: 7/31/02

P.O. NUMBER: SITE: Waste Characterization ANALYTICAL DUE DATE: 8/06/02N

AMOUNT REC"D: 120G

REPORT DUE DATE: 8/06/02

STORAGE LOC: R47

PRIORITY: 05

LOT COMMENTS: MATRIX: SOLID SAMPLING TIME: 9:15
RECEIVING TIME: 9:15

USAF MATRIX:

SAMPLE ID: H-10

QC PACKAGE: Report SAMPLE COMMENTS:

SDG# :

Beginning Depth: .00 Ending Depth: .00

WRK REQUEST EXTRACTION ANALYSIS

***** ANALYSIS ***** LOC DATE EXP DATE EXP DATE

06 8/02/02 0/00/00 11/07/02 Moisture, Percent (160.3) NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION

(A-88-WM-01) E5QGH-1-AC Protocol: A QC Program: STANDARD TEST SET

Pesticides (8081A) 06 8/01/02 8/14/02 9/11/02

SONICATION - Low Level

STL: Pesticides by 8081A

(A-13-QJ-01) ESQGH-1-AA Protocol: A QC Pregram: STANDARD TEST SET

PSL20300 Page 1 SEVERN TRENT LABORATORIES, INC. Run Date: 8/02/02 CLIENT ANALYSIS SUMMARY

STL St. Louis

Time: 6:38:29 User Id.: POWELLJ

CLIENT: 378708 STS ACQUISITIONS CO. dba STS CONS., LTD. QUOTE/SAR #: 43710

PROJECT MANAGER: John D. Powell LAB ID: F-2H010233-004

PROJECT #: WORK ORDER: E5QGJ

REPORT TO: Rich Berggreen RECEIVING DATE: 8/01/02

SAMPLING DATE: 7/31/02 P.O. NUMBER: SITE: Waste Characterization

ANALYTICAL DUE DATE: 8/06/02N AMOUNT REC"D: 120G

REPORT DUE DATE: 8/06/02 STORAGE LOC: R47 PRIORITY: 05

LOT COMMENTS: SAMPLING TIME: 9:45

MATRIX: SOLID RECEIVING TIME: 9:15

USAF MATRIX:

SAMPLE ID: H-12

QC PACKAGE: Report SDG# :

SAMPLE COMMENTS:

Beginning Depth: .00 Ending Depth: .00

WRK REQUEST EXTRACTION ANALYSIS **** ANALYSIS **** LOC DATE EXP DATE EXP DATE

06 8/02/02 0/00/00 11/07/02 Moisture, Percent (160.3)

NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION

(A-88-WM-01) E5QGJ-1-AC Protocol: A QC Program: STANDARD TEST SET

Pesticides (8081A) 06 8/01/02 8/14/02 9/11/02

SONICATION - Low Level STL: Pesticides by 8081A

(A-13-OJ-01) E5QGJ-1-AA Protocol: A QC Program: STANDARD TEST SET

# Chain of Custody Record



Severn Trent Laboratories, Inc.

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Comments		<u> </u>																					

DISTRIBUTIO

IITE - Returned to Client with Report: CANARY - Stays with the Sample; PINK - Field Copy



Ev 7 8.1.02 Lot No.: <del>726//</del>

# Condition Upon Receipt Form St. Louis Laboratory

Client:_	3/3	Date:_	8.1.02 Time: 3915		
Quote N		initiate			
Shipper/	No: Tell 83494843	COC/R	FA Numbers: //5328		
Condition/Variance (Circle "Y" for yes and "N" for no. If "N" is circled, see notes for explanation):					
1. 3	N Sample received in undamaged condition	. 5. 🕢 N	Sample volume sufficient for analysis.		
2.	N Sample received within 4-C ± 2-C*	6. <b>Ø</b> N	Sample received with Chain of Custody.		
	Record temperature: 6	7. (Y)N	Chain of Custody matches sample IDs on containers.		
3.	NNA Sample received with proper pH**.	8. Y (N)	Custody seal received intact and tamper evident on cooler.		
4.	N Sample received in proper containers.	9. Y 🐔	Custody seal received intact and tamper evident on bottles.		
* Temperature Variance Does Not Affect the Following Analyses:					
** For DOE-AL (Pantex, LANL, Sandia, Timet) sites, remember to pH all containers received, except for VOA, TOX, and soils.					
Notes:					
••••		· - · · · · · · · · · · · · · · · · · ·			
<del>.</del>					
·					
<u></u>	Assis				
Correctiv	ve Action:				
	Client's Name:	Informed verbally on:	By:		
	Client's Name:	Informed in writing on:	By:		
	Sample(s) processed "as is".				
	Sample(s) on hold until:	<b></b>	If released, notify:		
Sample Control Supervisor (or designate) Review: State 1811 Date: 8.1.02					
Sample Control Supervisor (or designate) Review: State Date: 8.1.02  Project Management Review: Date: 08.01-02					

SIGNED ORIGINAL MUST BE RETAINED IN THE PROJECT FILE
THIS FORM MUST BE COMPLETED AT THE TIME THE ITEMS ARE BEING CHECKED
IF ANY ITEM IS COMPLETED BY SOMEONE OTHER THAN THE INITIATOR, THEN THAT PERSON IS REQUIRED TO APPLY THEIR
INITIALS AND THE DATE NEXT TO THAT ITEM



**STL St. Lewis** 13715 Rider Trail North Earth City, MO 63045

Tel 314 298 8566 Fax 314 298 8757 www.stl-inc.com

# ANALYTICAL REPORT

REVISED

Waste Characterization

Lot #: F2G310222

Rich Berggreen

STS Acquisitions Co. 750 Corporate Woods Parkway Vernon Hills, IL 60061

SEVERN TRENT LABORATORIES, INC.

Project Manager

August 16, 2002

### Case Narrative LOT NUMBER: F2G310222

This report contains the analytical results for the three samples received under chain of custody by STL St. Louis on July 31, 2002. These samples are associated with your Waste Characterization project.

All applicable quality control procedures met method-specified acceptance criteria except as noted below.

This report is incomplete without the case narrative. All results are based upon sample as received, wet weight, unless noted otherwise.

# Observations/Nonconformances

Reference the chain of custody and condition upon receipt report for any variations on receipt conditions and temperature of samples on receipt.

#### **Affected Samples:**

F2G310222 (1): F4-VP F2G310222 (2): F6-VP

F2G310222 (3): F10-VP

## Affected Methods:

8081A

#### Case Narrative:

MS/MSD was not analyzed due to significant matrix interferences observed in the associated sample. Results are provided with this narrative.

The samples were analyzed at a dilution due to the presence of matrix interferences. The reporting limit has been adjusted for the dilution.

# **METHODS SUMMARY**

#### F2G310222

PARAMETER	METHOD	PREPARATION METHOD
Organochlorine Pesticides	SW846 8081A	SW846 3550
Percent Moisture	MCAWW 160.3 MOD	MCAWW 160.3 MOD

#### References:

MCAWW "Methods for Chemical Analysis of Water and Wastes",

EPA-600/4-79-020, March 1983 and subsequent revisions.

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical

Methods*, Third Edition, November 1986 and its updates.

# **SAMPLE SUMMARY**

# P2G310222

WO \$	SAMPLE	CLIENT SAMPLE ID	SAMPLED SAMI DATE TIME	
BSM44	001	P4-VP	07/26/02 14:3	30
BSMSM	002	F6-VP	07/26/02 14:3	30
<b>ESM6P</b>	003	F10-VP	07/26/02 14:3	30

## HOTE(S):

- The analytical results of the samples fixed above are presented on the following pages
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results agend as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basic color, corrotivity, density, flashpoint, ignitability, layers, addr, pains filter test, pH, porestry pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

## Client Sample ID: F4-VP

## GC Semivolatiles

Lot-Sample #:	F2G310222-001	Work Order #:	E5M441AA	Matrix SOLID
D-4	07/06/05 14 00	. m	/ /	

 Date Sampled...:
 07/26/02 14:30 Date Received...:
 07/31/02

 Prep Date....:
 08/01/02 Analysis Date...:
 08/08/02

 Prep Batch #...:
 2213116 Analysis Time...:
 01:05

Dilution Factor: 20

* Moisture....: 10 Method....: SW846 8081A

		REPORTIN	r <b>G</b>
PARAMETER	RESULT	LIMIT	UNITS
Heptachlor	ND	38	ug/kg
Heptachlor epoxide	ND	38	ug/kg
Aldrin	ND	38	ug/kg
Chlordane (technical)	ND	380	ug/kg
alpha-BHC	ND	38	ug/kg
gamma-BHC (Lindane)	ND	38	ug/kg
4,4'-DDT	ND	38	ug/kg
Dieldrin	ND	38	ug/kg
	PERCENT	RECOVERY	•
SURROGATE	RECOVERY	<u>LIMITS</u>	
Tetrachloro-m-xylene	0.0 DIL	(57 - 11	6)
Decachlorobiphenyl	0.0 DIL	(45 - 14	7)

# NOTE (S):

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes. Results and reporting limits have been adjusted for dry weight.

LOT# F2G310222

Client Sample ID: P4-VP

## General Chemistry

Lot-Sample #...: F2G310222-001 Work Order #...: E5M44 Matrix.....: SOLID

Date Sampled...: 07/26/02 14:30 Date Received..: 07/31/02

* Moisture....: 10

 PARAMETER
 RESULT
 RL
 UNITS
 METHOD
 ANALYSIS DATE
 BATCH #

 Percent Moisture
 10.1
 0.10
 %
 MCANN 160.3 MOD
 08/01-08/02/02
 2213219

Dilution Factor: 1 Analysis Time..: 00:04

# Client Sample ID: F6-VP

# GC Semivolatiles

Lot-Sample #:	F2G310222-002	Work Order #:	esm5m1aa	Matrix SOLID
D-4- 01-3	07/06/00 14 00	Date Danaday 2	07/31/00	

 Date Sampled...:
 07/26/02 14:30 Date Received...
 07/31/02

 Prep Date....:
 08/01/02 Analysis Date...
 08/08/02

 Prep Batch #...:
 2213116 Analysis Time...
 01:24

Dilution Factor: 20

* Moisture....: 10 Method.....: SW846 8081A

		REPORTING	
PARAMETER	RESULT	LIMIT	UNITS
Heptachlor	ND	38	ug/kg
Heptachlor epoxide	ND	38	ug/kg
Aldrin	ND	38	ug/kg
Chlordane (technical)	ND	380	ug/kg
alpha-BHC	ND	38	ug/kg
gamma-BHC (Lindane)	ND	38	ug/kg
4,4'-DDT	ND	38	ug/kg
Dieldrin	ND	38	ug/kg
	PERCENT	RECOVERY	
SURROGATE	RECOVERY	LIMITS	_
Tetrachloro-m-xylene	0.0 DIL	(57 - 116)	_
Decachlorobiphenyl	0.0 DIL	(45 - 147)	

NOTE (S):

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

Results and reporting limits have been adjusted for dry weight.

LOT# F2G310222

Client Sample ID: P6-VP

# General Chemistry

Lot-Sample #...: F2G310222-002 Work Order #...: B5M5M Matrix.....: SOLID

Date Sampled...: 07/26/02 14:30 Date Received..: 07/31/02

**% Moisture....:** 10

 PARAMETER
 RESULT
 RL
 UNITS
 METHOD
 ANALYSIS DATE
 BATCH #

 Percent Moisture
 10.1
 0.10
 %
 MCASW 160.3 MOD
 08/01-08/02/02
 2213219

Dilution Factor: 1 Analysis Time..: 00:04

Client Sample ID: F10-VP

## GC Semivolatiles

Lot-Sample #:	F2G310222-003	Work Order #: E5M6F1AA	Matrix SOLID
Date Sampled:	07/26/02 14:30	Date Received: 07/31/02	

 Date Sampled...:
 07/26/02 14:30 Date Received...:
 07/31/02

 Prep Date.....:
 08/01/02 Analysis Date...:
 08/08/02

 Prep Batch #...:
 2213116 Analysis Time...:
 01:43

Dilution Factor: 20

* Moisture....: 6.8 Method.....: SW846 8081A

		REPORTIN	1G
PARAMETER	RESULT	LIMIT	UNITS
Heptachlor	ND	36	ug/kg
Heptachlor epoxide	ND	36	ug/kg
Aldrin	ND	36	ug/kg
Chlordane (technical)	ND	360	ug/kg
alpha-BHC	ND	36	ug/kg
gamma-BHC (Lindane)	ND	36	ug/kg
4,4'-DDT	ND	36	ug/kg
Dieldrin	ND	36	ug/kg
	PERCENT	RECOVERY	r
SURROGATE	RECOVERY	LIMITS	
Tetrachloro-m-xylene	0.0 DIL	(57 - 11	L6)
Decachlorobiphenyl	0.0 DIL	(45 - 14	17)

# NOTE(S):

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

Results and reporting limits have been adjusted for dry weight.

Client Sample ID: P10-VP

# General Chemistry

Lot-Sample #...: F2G310222-003 Work Order #...: R5M6F Matrix.....: SOLID

Date Sampled...: 07/26/02 14:30 Date Received..: 07/31/02

* Moisture....: 6.8

					Preparation-	PREP
PARAMETER	RESULT	RL	UNITS	METHOD	ANALYSIS DATE	BATCH #
Percent Moisture	6.8	0.10	8	MCAWW 160.3 MOD	08/01-08/02/02	2213219
	Dı	lution Pact	or: 1	Analysis Time: 00:04		

LOT# F2G310222

#### METHOD BLANK REPORT

# GC Semivolatiles

Client Lot #...: F2G310222

Work Order #...: E5PJN1AA

Matrix..... SOLID

MB Lot-Sample #: F2H010000-116

Prep Date....: 08/01/02 Prep Batch #...: 2213116 Analysis Time..: 21:04

Analysis Date..: 08/07/02

Dilution Factor: 1

REPORTING

PARAMETER	RESULT	LIMIT	UNITS	METHOD
Heptachlor	ND	1.7	ug/kg	SW846 8081A
Heptachlor epoxide	ND	1.7	ug/kg	SW846 8081A
Aldrin	ND	1.7	ug/kg	SW846 8081A
Chlordane (technical)	ND	17	ug/kg	SW846 8081A
alpha-BHC	ND	1.7	ug/kg	SW846 8081A
gamma-BHC (Lindane)	ND	1.7	ug/kg	SW846 8081A
4,4'-DDT	ND	1.7	ug/kg	SW846 8081A
Dieldrin	ND	1.7	ug/kg	SW846 8081A
	PERCENT	RECOVER	Y	
SURROGATE	RECOVERY	LIMITS		
Tetrachloro-m-xylene	74	(57 - 1	16)	
Decachlorobiphenyl	93	(45 - 14	17)	

## NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

11

## LABORATORY CONTROL SAMPLE EVALUATION REPORT

#### GC Semivolatiles

Client Lot #...: F2G310222 Work Order #...: E5PJN1AC Matrix.....: SOLID

LCS Lot-Sample: F2H010000-116

 Prep Date....: 08/01/02
 Analysis Date..: 08/07/02

 Prep Batch #...: 2213116
 Analysis Time..: 21:23

Dilution Factor: 1

	PERCENT	RECOVERY	
PARAMETER	RECOVERY	LIMITS	METHOD
Beptachlor	89	(58 - 150)	SW846 8081A
Beptachlor epoxide	85	(62 - 150)	SW846 8081A
Aldrin	82	(57 - 150)	SW846 8081A
alpha-BBC	79	(56 - 150)	SW846 8081A
gamma-BBC (Lindane)	83	(59 - 150)	SW846 8081A
Rndrin	94	(62 - 150)	SW846 8081A
4,4'-DDT	103	(66 - 150)	SW846 8081A
Dieldrin	86	(57 - 150)	SW846 8081A
beta-BHC	81	(53 - 150)	SW846 8081A
delta-BBC	54	(49 - 141)	SW846 8081A
alpha-Chlordane	85	(57 - 150)	SW846 8081A
gama-Chlordane	85	(58 - 150)	SW846 8081A
4,4'-DDD	86	(60 - 149)	SW846 8081A
4,4'-DDB	87	(65 - 150)	SW846 8081A
Endosulfan I	85	(60 - 146)	SW846 8081A
Endosulfan II	86	(59 - 150)	SW846 8081A
Endosulfan sulfate	78	(59 - 148)	SW846 8081A
Endrin aldehyde	77	(43 - 150)	SW846 8081A
Endrin ketone	88	(61 - 150)	SW846 8081A
Methoxychlor	96	(62 - 150)	SW846 8081A
		PERCENT	RECOVERY
SURROGATE		RECOVERY	LIMITS
Tetrachloro-m-xylene		76	(66 - 133)
Decachlorobiphenyl		88	(59 - 146)

BOTE (S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes council parameters

LOT# F2G310222 12

PSL20300 SEVERN TRENT LABORATORIES, INC Run Date: 7/31/02
Page 1 CLIENT ANALYSIS SUMMARY Time: 12:48:50
STL St. Louis User Id.: ZAHNERM

CLIENT: 378708 STS ACQUISITIONS CO. dba STS CONS., LTD. QUOTE/SAR #: 43710 LAB ID: F-2G310222-001 PROJECT MANAGER: John D. Powell

WORK ORDER: E5M44 PROJECT #:

Rich Berggreen RECEIVING DATE: 7/31/02 REPORT TO:

SAMPLING DATE: 7/26/02
SITE: Waste Characterization
AMOUNT REC"D: 120G

ANALYTICAL DUE DATE: 8/07/02N

STORAGE LOC: R 47 PRIORITY: 07

SAMPLING TIME: 14:30 LOT COMMENTS: RECEIVING TIME: 9:15 MATRIX: SOLID

USAF MATRIX:

SAMPLE ID: F4-VP

QC PACKAGE: Report SDG# :

SAMPLE COMMENTS:

Beginning Depth: .00 Ending Depth: .00

WRK REQUEST EXTRACTION ANALYSIS LOC DATE EXP DATE EXP DATE ***** ANALYSIS *****

06 7/31/02 8/09/02 9/18/02 Pesticides (8081A)

SONICATION - Low Level STL: Pesticides by 8081A

(A-13-QJ-01) E5M44-1-AA Protocol: A QC Program: STANDARD TEST SET

Moisture, Percent (160.3) 06 7/31/02 0/00/00 11/02/02

NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION

(A-88-WM-01) E5M44-1-AC Protocol: A QC Program: STANDARD TEST SET

PSL20300 Page 1

SEVERN TRENT LABORATORIES, INC
CLIENT ANALYSIS SUMMARY
STL St. Louis
CLIENT ANALYSIS SUMMARY
STL St. Louis
CLIENT ANALYSIS SUMMARY
User Id.: ZAHNERM

CLIENT: 378708 STS ACQUISITIONS CO. dba STS CONS., LTD. QUOTE/SAR #: 43710

LAB ID: F-2G310222-002 PROJECT MANAGER: John D. Powell

PROJECT #: WORK ORDER: ESMSM

Rich Berggreen REPORT TO: RECEIVING DATE: 7/31/02

SAMPLING DATE: 7/26/02
SITE: Waste Characterization ANALYTICAL DUE DATE: 8/07/02N
AMOUNT REC*D: 126G

PRIORITY: 07 STORAGE LOC: R 47

SAMPLING TIME: 14:30 RECEIVING TIME: 9:15 LOT COMMENTS: MATRIX: SOLID

USAF MATRIX:

SAMPLE ID: F6-VP

QC PACKAGE: Report SDG# :

SAMPLE COMMENTS:

Beginning Depth: .00 Ending Depth: .00

WRK REQUEST EXTRACTION ANALYSIS ***** ANALYSIS ***** LOC DATE EXP DATE EXP DATE

06 7/31/02 8/09/02 9/18/02 Pesticides (9081A)

SONICATION - Low Level STL: Pesticides by 8081A

(A-13-QJ-01) ESM5M-1-AA Protocol: A QC Program: STANDARD TEST SET

06 7/31/02 0/00/00 11/02/02 Mcisture, Percent (160.3)

NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION

(A-88-WM-01) E5M5M-1-AC Protocol: A QC Program: STANDARD TEST SET

PSL20300 SEVERN TRENT LABORATORIES, INC Run Date: 7/31/02
Page 1 CLIENT ANALYSIS SUMMARY Time: 12:48:50

STL St. Louis

User Id.: ZAHNERM

CLIENT: 378708 STS ACQUISITIONS CO. dba STS CONS., LTD. QUOTE/SAR #: 43710

PROJECT MANAGER: John D. Powell

LAB ID: F-2G310222-003

PROJECT #:

WORK ORDER: E5M6F

REPORT TO:

RECEIVING DATE: 7/31/02

P.O. NUMBER:

Rich Berggreen SAMPLING DATE: 7/26/02

AMOUNT REC"D: 120G

SITE: Waste Characterization ANALYTICAL DUE DATE: 8/07/02N REPORT DUE DATE: 8/07/02

STORAGE LOC: R 47

PRIORITY: 07

LOT COMMENTS: MATRIX: SOLID SAMPLING TIME: 14:30

USAF MATRIX:

SAMPLE ID: F10-VP

RECEIVING TIME: 9:15

SDG# :

QC PACKAGE: Report SAMPLE COMMENTS:

Beginning Depth: .00 Ending Depth: .00

WRK REQUEST EXTRACTION ANALYSIS LOC DATE EXP DATE EXP DATE

***** ANALYSIS *****

06 7/31/02 8/09/02 9/18/02

Pesticides (8081A) SONICATION - Low Level

STL: Pesticides by 8081A

(A-13-QJ-01) E5M6F-1-AA Protocol: A QC Program: STANDARD TEST SET

Moisture, Percent (160.3)

06 7/31/02 0/00/00 11/02/02

NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION

(A-88-WM-01) E5M6F-1-AC Protocol: A QC Program: STANDARD TEST SET

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Lot No.: [-26310222

# Condition Upon Receipt Form St. Louis Laboratory

Client: ST	<u></u>	Date:	7/3/62 Time: 09/5
Quote No:	43710	Initiated	lby: <u>7</u> #
Shipper/No: Fe	6 Ex 834998434687	COC/RI	FA Numbers:
Condition/Var	iance (Circle "Y" for yes and "N" for i	no. If "N" is circled, see	notes for explanation):
1. 6 N	Sample received in undamaged condition	n. 5. 🔗 N	Sample volume sufficient for analysis.
2. KN	Sample received within 4°C ± 2°C*	6. 🕜 N	Sample received with Chain of Custody.
	Record temperature: 3	7. Ø N	Chain of Custody matches sample IDs on containers.
3. Y N 🚱	Sample received with proper pH**.	8. Y	Custody seal received intact and tamper evident on cooler.
4. 19 N	Sample received in proper containers.	9. Y (Ñ)	Custody seal received intact and tamper evident on bottles.
-	Variance Does Not Affect the Following And (Pantex, LANL, Sandia, Timet) sites, reme  Myseula gusent	ember to pH all containers i	received, except for VOA, TOX, and solls.
		· · · · · · · · · · · · · · · · · · ·	
	·		
Corrective Action	n:		
□ Client	r's Name:	Informed verbally on:	Ву:
□ Client	t's Name:	Informed in writing on:	By:
□ Samp	le(s) processed "as is".	<del>-</del>	
□ Samp	le(s) on hold until:		If released, notify:
Sample Control S	supervisor (or designate) Review:		Date: 7/3//02
Project Managem	ent Review:	Jung	Date: Of 10 1-02

SIGNED ORIGINAL MUST BE RETAINED IN THE PROJECT FILE THIS FORM MUST BE COMPLETED AT THE TIME THE ITEMS ARE BEING CHECKED
IF ANY ITEM IS COMPLETED BY SOMEONE OTHER THAN THE INITIATOR, THEN THAT PERSON IS REQUIRED TO APPLY THEIR INITIALS AND THE DATE NEXT TO THAT ITEM



# APPENDIX H

Sidewalk MicroR Survey Results

# Memo

To:

Rich Berggreen, STS Consultants

From: Glenn Huber

CC:

**Date:** 10/29/02

Re:

341 East Ohio Street Site - Sidewalk Surveys

CAH

On October 29, 2002, I performed exposure rate surveys of areas where thorium contamination is known to exist underneath the sidewalks at the 341 East Ohio Street Site. Surveys were performed using a Ludlum Model 3 MicroR meter with 1"x1" Nal probe (serial no. 113256). Exposure rates were recorded at the surface and at one meter above the surface.

Grid Location	Surface uR/hr	1 meter uR/hr
A/3-4	5-7	5-7
A/12-14	6-9	6-9
N/8.5-12	5-9	6-9

Attached are NUTRANL soil sample results obtained from the walls bordering the property line / sidewalk. If you have any questions, please call me at (815) 485-6161

Glenn Huber, SAHCI

voice 847-279-2500 fax weh

847-279-2510 www.stsconsultants.com



November 1, 2002

Mr. Fred Micke, On-Scene Coordinator Ms. Verneta Simon, On-Scene Coordinator U. S. Environmental Protection Agency Region 5 77 W. Jackson Blvd., SE-5J Chicago, Illinois 60604

RE:

341 E. Ohio Street, Radiation Survey of Adjacent Sidewalk Area ~ STS Project No. 1-25585-XI, Correspondence No. 136

Dear Mr. Micke and Ms. Simon:

In response to your request made to Rich Berggreen on October 23, 2002, a field radiation survey was completed at areas adjacent to the above-referenced site, where radiologically-impacted soil appears to exist beneath the sidewalk. As you know, all radiological-impacted soil above the action level established in the Amended Removal Action Work Plan (7.1 pCi/g) was removed from within the property limits of the site during the recently completed Removal Action. Fill material exposed at three locations along the excavation wall beyond the property limits (beneath the sidewalk) appeared to exhibit radioactivity above the cleanup level based on the final verification surveys performed in those areas. This material was not removed because it was beyond the property limit. Furthermore, from a practical standpoint removing the fill would potentially result in undermining and settling or collapse of the sidewalk.

On October 29, 2002, a microR survey was conducted of the locations where impacted material is believed to remain beyond the property limit. The locations surveyed were:

- South sidewalk, along former project grid line A, between grid lines 3 to 4 and 12 to 14; and
- North sidewalk, along former project grid line N, between grid lines 8.5 to 12.

The following table presents the ranged of the microR readings at the sidewalk surface and at a distance of 1 meter above the sidewalk surface for the survey alignments noted above. The survey was performed using a Ludlum Model 3 MicroR Meter with 1' x 1' Nal probe (Serial No. 113256).

Location	Sidewalk Surface	1 meter above Sidewalk Surface
	(μR/hr)	(μR/hr)
Along A, from 3 to 4	5 – 7	5 – 7
Along A, from 12 to 14	6 – 9	6 – 9
Along N, from 8.5 to 12	5 – 9	6 – 9

Attached please find the NUTRANL analytical results for samples collected from the locations exhibiting residual impacts. The samples are from A, 2.75 to 3.5; A, 12.25; and N, 10. The analysis shows total radium levels for these three locations of 5.86 pCi/g, 8.17 pCi/g, and 240.66 pCi/g, respectively.

Please contact us with any additional questions you may have regarding this matter.

Regards,

S. Esser, P.E., P.G. nior Project Engineer

**NUTRANL Gamma Spec Report** Attachments:

Cc: Mr. Timothy Ramsey (Piper Rudnick)

Richard G. Berggreen, C.P.G.

R. G Bergguer/ Huc

Principal Geologist

	Nutran	l Gamma	Spec Report- 341	East O	hio Str	eet Site						
	Sa	amples of Co	ontamination Beneath	Sidewalk	S							
Sample	Sample	Sample	Description	Weight	U-238	U-238	Th-232	Th-232	Ra-226	Ra-226	Total Radium	Total Radium
ID	Date	Group	·		Activity	Uncertainty	Activity	Uncertainty	Activity	Uncertainty	Activity	Uncertainty
655	8/2/02	exclusion zone	\$1361 A/2.75-3.5 WALL	29.3	-0.99	3.92	4.58	1.14	1.28	1.46	5.86	1.852349859
659	8/5/02	Pre EPA	S1363 A/12.25	31.3	-3.66	2.35	6.07	0.71	2.1	0.88	8.17	1.130707743
842	9/11/02	exclusion zone	S1494 N-10 North Wall	25.9	-91.15	21.6	225.01	6.14	15.65	6.95	240.66	9.273731719
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# **APPENDIX I**

**USEPA Site Restoration Plan Concurrence** 



# UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

# REGION 5 77 WEST JACKSON BOULEVARD CHICAGO, IL 60604-3590

OCT 24 2002

REPLY TO THE ATTENTION OF:

SE-5J

#### VIA FACSIMILE (847) 279-2510 AND U.S. MAIL

Mr. Richard Berggreen

Mr. John Esser

STS Consultants, Ltd.

750 Corporate Woods Parkway Vernon Hills, Illinois 60061

RE: 341 East Ohio Work Plan

Lindsay Light II Site/North McClurg Court

Dear Messrs. Berggreen and Esser:

U.S. EPA has reviewed your facsimile dated October 17, 2002, which requested written approval of the following measures:

- The site will be rough-graded to eliminate significant depressions or mounds.
- Slopes will be as flat as practical to minimize the potential for erosion.
- 3. Temporary construction fencing will be replaced with a 6-foot chain-link fence, two truck access gates, and two pedestrian access gates.
- 4. Gravel cover over the remainder of the site in a thickness that will prevent wind entrainment of the underlying soil.

U.S. EPA approves the above measures.

If you have any questions regarding this correspondence, please contact me at (312) 886-3601 or Fred Micke, On-Scene Coordinator, at (312) 886-5123, or Larry Jensen, Senior Health Physicist, at (312) 886-5026.

Sincerely,

Verneta Simon

On-Scene Coordinator

cc: Naren Prasad, City of Chicago - Department of Environment



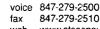
# **APPENDIX J**

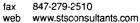
# **Air Monitoring Results**

- a. Termination of Air Monitoring Correspondenceb. Perimeter Air Monitoringc. Personal Air Monitoring



# **Termination of Air Monitoring Correspondence**







October 8, 2002

Mr. Fred Micke, On-Scene Coordinator Ms. Verneta Simon, On-Scene Coordinator U. S. Environmental Protection Agency Region 5 77 W. Jackson Blvd., SE-5J Chicago, Illinois 60604

RE: Cessation of Air Monitoring, 341 East Ohio Street Site, Chicago, Illinois - STS Project No. 1-25585-XI, Correspondence No. 128

Dear Mr. Micke and Ms. Simon:

This letter is to confirm your concurrence with the cessation of air monitoring at the above referenced site. On Tuesday October 1, 2002, during a site visit to verify the cleanup of radiological impacts, the STS personnel on site were advised that the verification survey indicated there was no remaining radiological-impacted material. Samples were taken for confirmation and will be provided to USEPA for analysis. Based on the field determination that all radiologically-impacted material was removed from the site, we were advised by USEPA that radiological air monitoring would no longer be required. As a result, no further sampling was performed. The analysis of previously collected samples will continue until all collected samples have been tested through the 4-day decay period for radon progeny.

Please provide written confirmation for our files of your concurrence with this directive to discontinue air monitoring at this site. Thank you for your attention to this matter.

Regards,

STS CONSULTANTS, LTD.

n S. Esser. P.E. nior Project Engineer

Richard G. Berggreen, C.P.G.

Principal Geologist

Timothy Ramsey, Piper Rudnick CC:



# UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

# REGION 5 77 WEST JACKSON BOULEVARD CHICAGO, IL 60604-3590

REPLY TO THE ATTENTION OF:

DCT 0 9 2002

SE-5J

## VIA FACSIMILE (847) 279-2510 AND U.S. MAIL

Mr. Richard Berggreen STS Consultants, Ltd. 750 Corporate Woods Parkway Vernon Hills, Illinois 60061

RE: 341 East Ohio Work Plan
Lindsay Light II Site/North McClurg Court

Dear Mr. Berggreen:

This letter is in response to your facsimile dated October 8, 2002 regarding written concurrence for cessation of air monitoring at the above-referenced site. U.S. EPA agrees to the cessation of air monitoring.

If you have any questions regarding this correspondence, please contact me at (312) 886-3601 or Fred Micke, On-Scene Coordinator, at (312) 886-5123, or Larry Jensen, Senior Health Physicist, at (312) 886-5026.

Sincerely,

Verneta Simon

On-Scene Coordinator



# Perimeter Air Monitoring

# Area Air Monitoring Summary Sheet - Weekly Effluent Concentration Report 341 East Ohio Street Project- Chicago, IL

		Week #1 (2 days) and		(High Volume)
	Time Sampled	Effluent Concentration	Concentration x	
ſ	(minutes)	in uCi/ml	Sample Min / Day	Comments
6/6/02	524	2.22E-15	1.16E-12	
6/7/02	530	0.00E+00	0.00E+00	
6/10/02		3.30E-15	1.82E-12	
6/11/02	573	0.00E+00	0.00E+00	
6/12/02	592	0.00E+00	0.00E+00	
6/13/02	524	4.90E-16	2.57E-13	
6/14/02	581	0.00E+00	0.00E+00	
	3877	6.01E-15	3.24E-12	

 $C_{\text{avg}} = \underline{\sum T_{\text{s,i}} C_{\text{i}}}$  $\underline{\sum T_{\text{s}}}$ 

Time Weighted Weekly
Effluent Concentration (North) = 8.37E-16 uCi/ml

Eq A.9 NUREG 1400

Percentage of Release Limit of = 20.92%

4E-15uCi/ml

South Monitor

	Time Sampled	Effluent Concentration	Concentration x	
Date	(minutes)	in uCi/ml	Sample Min / Day	Comments
6/6/02	522	0.00E+00	0.00E+00	
6/7/02	525	8.86E-16	4.65E-13	
6/10/02	555	1,39E-15	7.71E-13	
6/11/02	575	0.00E+00	0.00E+00	
6/12/02	589	9.52€-16	5.61E-13	
6/13/02	528	0.00E+00	0.00E+00	
6/14/02	578	0.00E+00	0.00E+00	
	3872	3,23E-15	1.80E-12	

 $C_{avg} = \underline{\Sigma T_{s,i} C_i}$   $\Sigma T_s$ 

Time Weighted Weekly
Effluent Concentration (South) = 4.648

Eq A.9 NUREG 1400

Effluent Concentration (South) = 4.64E-16 uCi/ml

Percentage of Release Limit of = 11.60%

4E-15uCi/ml

East Monitor

	Time Cameled	Effluent Concentration	Canantanting	
		1	Concentration x	
Date	(minutes)	in uCi/mi	Sample Min / Day	Comments
6/6/02	528	0.00E+00	0.00E+00	
6/7/02	528	0.00E+00	0.00E+00	
6/10/02	561	0.00E+00	0.00E+00	
6/11/02	574	0.00E+00	0.00E+00	
6/12/02	597	0.00E+00	0.00E+00	
6/13/02	527	1.95E-15	1.03E-12	
6/14/02	595	7.82E-16	4.65E-13	
	3910	2 73F-15	1 49F-12	

 $C_{\text{evg}} = \underline{\Sigma T_{\text{e}}, C_{\text{i}}}$   $\Sigma T_{\text{s}}$ Eq A.9 NUREG 1400

Time Weighted Weekly

Effluent Concentration (East) = 3.82E-16 uCi/ml

Percentage of Release Limit of = 9.55%

# 4E-15uCi/ml

#### West Monitor

	Time Sampled	Effluent Concentration	Concentration x	
Date	(minutes)	in uCi/ml	Sample Min / Day	Comments
8/6/02	526	0.00E+00	0.00E+00	
6/7/02	525	0.00E+00	0.00E+00	
6/10/02	562	3.05E-15	1.71E-12	
6/11/02	577	8.91E-16	5.1 <b>4E-1</b> 3	
6/12/02	594	0.00E+00	0.00E+00	
6/13/02	532	3.23E-15	1.72E-12	
6/14/02	591	0.00E+00	0.00E+00	
	3907	7.17E-15	3.95E-12	

 $C_{\text{evo}} = \frac{\sum T_{s,i} C_i}{\sum T_s}$ 

Time Weighted Weekly	
Effluent Concentration (West) =	1.01E-15 uÇi/ml
Percentage of Release Limit of =	25 25%

Eq A.9 NUREG 1400

# Area Air Monitoring Summary Sheet - Staplex High Volume Pumps (Daily Analysis) 341 East Ohio Street Project - Chicago, IL

Week 1 & 2 June 6, 2002 - June 14, 2002

AAGGK	1 4 2			ound	J, 200.	z - June	17, 2001										
				total	cultric	sample		day	after a	nalysis			fou	r day a	nalysis		% of Limit
Sample	date	start	stop	time	itt min	volume	date	gross	bkg	net	Concentration	date	gross	bkg	net	Concentration	4.00E-15
ID OI	sampled	time	time	sampled	(CFM)	analyzed	analyzed	counts	counts	cpm	in uCi/ml	analyzed	counts	counts	cpm	in uCi/ml	uCl/ml
N1001	6/6/02	8:01am	4:45pm	524	42.5	2.21E+07	6/7/02	37	16	0.7	1.16E-14	6/11/02	21	17	0.133	2.22E-15	55.38%
S1001	6/6/02	8:11am	4:53pm	522	40	2.07E+07	6/7/02	30	16	0.46667	8.27E-15	6/11/02	15	17	0	0.00E+00	0.00%
E1001	6/6/02	7:57am	4:45pm	528	51	2.67E+07	6/7/02	23	16	0.23333	3.21E-15	6/11/02	17	17	0	0.00E+00	0.00%
W1001	6/6/02	8:07am	4:53pm	526	40	2.09E+07			16	0.5	8.79E-15	6/11/02	16	17	0	0.00E+00	0.00%
N1002	6/7/02	8:00am	4:50pm	530	52	2.73E+07	6/10/02	20	16	0.13333	1.79E-15	6/12/02	15	19	0	0.00E+00	
S1002	8/7/02	8:02am	4:47pm	525	53	2.76E+07	6/10/02	28	16	0.4	5.32E-15	6/12/02	21	19	0.067	8.86E-16	22.16%
E1002	6/7/02	8:02am	4:50pm	528	58	3.04E+07	6/10/02	26	16	0.33333	4.03E-15	6/12/02	15	19	0	0.00E+00	0.00%
W1002	6/7/02	8:04am	4:49pm	525	38	1.98E+07	6/10/02	18	16	0.06667	1.24E-15	6/12/02	19	19	0	0.00E+00	0.00%
N1003	6/10/02	8:04am	5:17pm	553	54	2.96E+07	6/11/02	173	17	5.2	6.44E-14	6/14/02	25	17	0.267	3.30E-15	82.60%
S1003	6/10/02	8:05am	5:20pm	555	48	2.64E+07	6/11/02	184	17	5.56667	7.73E-14	6/14/02	20	17	0.1	1.39E-15	34.72%
E1003	6/10/02	8:04am	5:25pm	561	43	2.39E+07	6/11/02	139	17	4.06667	6.24E-14	6/14/02	17	17	0	0.00E+00	0.00%
W1003	6/10/02	8:05am	5:27pm	562	36	2.01E+07	6/11/02	187	17	5.66667	1.04E-13	6/14/02	22	17	0.167	3.05E-15	76.19%
N1004	6/11/02	7:55am	5:28pm	573	58	3.29E+07	6/12/02	108	19	2.96667	3.30E-14	6/17/02	14	22	0	0.00E+00	0.00%
S1004	8/11/02	7:55am	5:30pm	575	48	2.74E+07	6/12/02	91	19	2.4	3.22E-14	6/17/02	15	22	0	0.00E+00	0.00%
E1004	6/11/02	7:55am	5:29pm	574	55	3.13E+07	6/12/02	91	19	2.4	2.81E-14	6/17/02	19	22	0	0.00E+00	0.00%
W1004	6/11/02	7:55am	5:32pm	577	48	2.74E+07	6/12/02	121	19	3,4	4.54E-14	6/17/02	24	22	0.067	8.91E-16	22.26%
N1005	6/12/02	7:53am	5: <b>4</b> 5pm	592	57	3.34E+07	6/13/02	61	18	1.43333	1.57E-14	6/17/02	18	22	0	0.00E+00	0.00%
S1005	6/12/02	7:51am	5:40pm	589	44	2.57E+07	6/13/02	83	18	2.16667	3.09E-14	6/17/02	24	22	0.067	9.52E-16	23.79%
E1005	6/12/02	7:51am	5:48pm	597	54	3.19E+07	6/13/02	53	18	1.16667	1.34E-14	6/17/02	14	22	0	0.00E+00	0.00%
W1005	6/12/02	7:53am	5:47pm	594	60	3.53E+07	6/13/02	. 41	18	0.76667	7.96E-15	6/17/02	20	22	0	0.00E+00	0.00%
N1006	6/13/02	8:01am	4:45pm	524	48	2.49E+07	6/14/02	20	17	0.1	1.47E-15	6/18/02	17	16	0.033	4.90E-16	12.26%
S1008	6/13/02	7:57am	4:45pm	528	48	2.51E+07	6/14/02	24	17	0.23333	3.41E-15	6/18/02	14	16	0	0.00E+00	0.00%
E1006	6/13/02	7:58am	4:45pm	527	60	3.13E+07	6/14/02	18	17	0.03333	3,90E-16	6/18/02	21	16	0.167	1.95E-15	48.75%
W1008	6/13/02	. 7:54am	4:46pm	532	43	2.27E+07	6/14/02	38	17	0.7	1.13E-14	6/18/02	22	16	0.2	3.23E-15	80.87%
N1007	6/14/02	7:59am	5:40pm	581	49	2.82E+07	6/17/02	20	22	0	0.00E+00	6/18/02	16	16		0.00E+00	0.00%
S1007	6/14/02	7:57am	5:35pm	578	48	2.75E+07	6/17/02	19	22	0	0.00E+00	6/18/02	16	16	0	0.00€+00	0.00%
E1007	6/14/02	7:50am	5:45pm	595	53	3.13E+07	6/17/02	26	22	0.13333	1.56E-15	6/18/02	. 18	16	0.067	7.82E-16	19.55%
W1007	6/14/02	7:56am	5:47pm	591	54	3.16E+07	6/17/02	18	_22	0	0.00E+00	6/18/02	14	16		0.00E+00	0.00%

# Area Air Monitoring Summary Sheet - Weekly Effluent Concentration Report 341 East Ohio Street Project- Chicago, IL

North Monitor_		Week #3 6/1	7/02-6/21	/02	(High Volume)
	Time Sampled	Effluent Conc	entration	Concentration x	
Date	(minutes)	in uCl/ml		Sample Min / Day	Comments
6/17/02	590		0.00E+00	0.00E+00	
6/18/02	530	1	0.00E <b>+0</b> 0	0.00E+00	
6/19/02	567	(	0.00E+00	0.00E+00	
6/20/02	575		9.75E-16	5.61E-13	
6/21/02	582		4.24E-16	2.47E-13	
	2844		1.40E-15	8.07E-13	

 $C_{avo} = \Sigma T_{a} C_i$  $\Sigma T_{\rm s}$  Time Weighted Weekly Effluent Concentration (North) = 2.84E-16 uCi/ml

Eq A 9 NUREG 1400

Percentage of Release Limit of =

4E-15uCi/ml

South Monitor

Date	Time Sampled (minutes)	Effluent Concentration in uCl/ml	Concentration x Sample Min / Day	Comments
6/17/02	590	4.18E-16	2.47E-13	
6/18/02	530	0.00E+00	0,00E+00	
8/19/02	566	0.00E+00	0.00E+00	
6/20/02	578	0.00E+00	0.00E+00	
8/21/02	579	4.18E-16	2.42E-13	
	2843	8.36E-16	4.89E-13	

 $C_{\text{evo}} = \Sigma T_{\text{RL}} C_{\text{I}}$  $\Sigma T_s$  Time Weighted Weekly

Effluent Concentration (South) =

1.72E-16 uCi/mI

Eq A 9 NUREG 1400

Percentage of Release Limit of =

4.30%

7.10%

4E-15uCi/ml

#### East Monitor

	Time Sampled	Effluent Concentration	Concentration x	
Date	(minutes)	in uCi/ml	Sample Min / Day	Comments
6/17/02	565	0.00E+00	0.00E+00	
6/18/02	560	0.00E+00	0.00E+00	
6/19/02	574	0.00E+00	0.00E+00	
6/20/02	572	0.00E+00	0.00E+00	
6/21/02	583	0.00E+00	0.00E+00	
	2854	0.00E+00	0.00E+00	

 $C_{avg} = \Sigma T_{-i} C_i$ 

Time Weighted Weekly

 $\Sigma T_s$ 

Effluent Concentration (East) = 0.00E+00 uCi/ml

Eq A 9 NUREG 1400

Percentage of Release Limit of =

0.00%

4E-15uCi/ml

West Monitor

	Time Sampled	Effluent Concentration	Concentration x	
Date	1 '	in uCi/ml	Sample Min / Day	Comments
6/17/02	594	3.77E-16	2.24E-13	
6/18/02	585	1.26E-15	7.12E-13	
6/19/02	569	0.00E+00	0.00E+00	
6/20/02	583	0.00E+00	0.00E+00	
6/21/02	570	0.00E+00	0.00E+00	<u>                                      </u>
	2881	1.64E-15	9.36E-13	

$C_{avg} = \Sigma T_{e_1} C_1$	Time Weighted Weekly	——————————————————————————————————————
Σ Τ,	Effluent Concentration (West) =	3.25E-16 uCi/mi
Eq A.9 NUREG 1400	Percentage of Release Limit of =	8.12%

Area Air Monitoring Summary Sheet - Staplex High Volume Pumps (Daily Analysis) 341 East Ohio Street Project - Chicago, IL

Week 3

June 17, 2002 - June 21, 2002

FICGR	<u> </u>				11, 20		<u> </u>										
			]	total	cubic	sample		day	after a	nalysis			fou	r day a	nalysis		% of Limit
Sample	date	etert	stop	time	f/ min	yolume	date	gross	bkg	net	Concentration	date	gross	bkg	net	Concentration	4 00E-15
סו	sampled	lime	time	sampled	(CFM)	analyzed	analyzed	counts	counts	cpm	ın uCi/ml	analyzed	counts	connta	сфт	in uCi/mi	uCvml
N1008	6/17/02	7:55am	5.45pm	590	50	2.92E+07	6/18/02	184	16	5.6	7.02E-14	6/21/02	13	16	0	0.00E+00	0.00%
S1008	6/17/02	7:51am	5:41pm	590	50	2.92E+07	6/18/02	199	16	6.1	7.65E-14	6/21/02	17	16	0.033	4.18E-16	10.45%
E1008	6/17/02	7:55am	5:20pm	565	52	2.91E+07	6/18/02	158	16	4.73333	5.96E-14	6/21/02	15	16	0	0.00E+00	0.00%
W1008	6/17/02	7.51am	5:45pm	594	55	3.24E+07	6/18/02	151	16	4.5	5.10E-14	6/21/02	17	16	0.033	3.77E-16	9.44%
N1009	6/18/02	8:00am	4 ⁻ 50pm	530	53	2 78E+07	6/19/02	165	25	4.66667	6.15E-14	6/24/02	16	22	0	0.00E+00	0.00%
S1009	6/18/02	8 00am	4.50pm	530	52	2.73E+07	6/19/02	189	25	5 46667	7.34E-14	6/24/02	19	22	٥	D 00E+00	0.00%
E1009	6/18/02	8:00am	5:20pm	560	56	3.11E+07	6/19/02	113	25	2.93333	3.46E-14	6/24/02	20	22	0	0 00E+00	0.00%
W1009	6/18/02	8:00am	5:25pm	565	52	2.91E+07	6/19/02	194	25	5 63333	7.09E-14	8/24/02	25	22	0.1	1.26E-15	31.48%
N1010	6/19/02	8:03am	5:30pm	567	51	2.87E+07	6/20/02	220	17	6.76667	8.66E-14	6/24/02	21	22	0	0.00E+00	0.00%
S1010	6/19/02	8:04am	5:30pm	566	44	2.47E+07	6/20/02	262	17	8,16667	1.21E-13	6/24/02	18	22	0	0.00E+00	0.00%
E1010	6/19/02	8:00am	5′34pm	574	45	2.58E+07	6/20/02	224	17	6.9	9 B8E-14	6/24/02	20	22	0	0.00E+00	0.00%
W1010	6/19/02	8:01am	5:30pm	569	45	2.54E+07	6/20/02	269	17	8.4	1 21E-13	6/24/02	14	22	٥	0.00E+00	0.00%
N1011	6/20/02	8:05am	5:40pm	575	44	2.51E+07	6/21/02	267	16	8 36667	1.22E-13	6/25/02	20	18	0.067	9.75E-16	24.37%
S1011	6/20/02	8:00am	5:38pm	57 <b>8</b>	38	2.18E+07	6/21/02	286	16	8 33333	1.40E-13	6/25/02	18	18	0	0.00E+00	0.00%
E1011	6/20/02	8:05am	5:37pm	572	51	2 89E+07	6/21/02	228	<b>1</b> 6	7 06667	8.96E-14	6/25/02	16	18	0	0 00E+00	0.00%
W1011	6/20/02	8:00am	5:43pm	583	54	3.12E+07	6/21/02	245	16	7 63333	8.97E-14	6/25/02	18	18	0	0 00E+00	0.00%
N1012	6/21/02	8:08am	5 [.] 50pm	582	50	2.88E+07	6/24/02	20	22	0	0.00E+00	6/25/02	19	18	0.033	4 24E-18	10.59%
S1012	6/21/02	8:08am	5:45pm	579	51	2.93E+07	6/24/02	22	22	0	0.00E+00	6/25/02	19	18	0.033	4.18E-16	10.44%
E1012	B/21/02	8:07am	5:50pm	583	52	3.00E+07	6/24/02	15	22	0	0.00E+00	6/25/02	16	18	0	0.00E+00	0.00%
W1012	6/21/02	8:10am	5:40pm	570	47	2 66E+07	6/24/02	19	22	0	0 00E+00	8/25/02	15	18	0	0.00E+00	0.00%

# Area Air Monitoring Summary Sheet - Weekly Effluent Concentration Report 341 East Ohio Street Project- Chicago, IL

North Monitor		Week #4 6/24/02-6	5/28/02	(High Volume)			
Date		Effluent Concentration in uCi/ml	Concentration x Sample Min / Day	Comments			
6/24/02	573	0.00E+00	0.00E+00				
8/25/02	510	0.00E+00	0.00E+00				
6/26/02	554	0.00E+00	0.00E+D0				
6/27/02	552	1.02E-15	5.63E-13				
6/28/02	545	0.00E+00	0.00E+00	·			
	2734	1.02E-15	5.63F-13				

 $C_{mvg} = \sum T_{e,i} C_i$  Time Weighted Weekly  $\sum T_s$  Effluent Concentration (North) = 2.06E-16 uCi/ml

Percentage of Release Limit of = 5.15%

4E-15uCi/ml

South Monitor

Date		Effluent Concentration in uCi/ml	Concentration x Sample Min / Day	Comments
8/24/02			0.00E+00	
6/25/02	530	0.00E+00	0.006+00	
6/26/02	552	0.00E+00	0.00E+00	
6/27/02	566	0.00E+00	0.00E+00	
6/28/02	540	4.57E-16	2.47E-13	
	2753	4 57F-16	2 47F-13	

 $C_{avg} = \sum T_{e,l} C_l$ Time Weighted Weekly  $\sum T_a$ Eq A.9 NUREG 1400

Percentage of Release Limit of = 2.24%

4E-15uCi/ml

East Monitor

Date	Time Sampled (minutes)	Effluent Concentration in uCi/ml	Concentration x Sample Min / Day	Comments
6/24/02	575	0.00E+00	0.00E+00	
6/25/02	510	0.00E+00	0.00E+00	
6/26/02	547	1.00E-15	5.47E-13	
6/27/02	563	1.46E-15	8.22E-13	
6/28/02	547	3.30E-15	1.81E- <u>12</u>	
	2742	5.76E-15	3.17E-12	

 $C_{\text{avg}} = \sum T_{\text{s.i.}} C_{\text{i}}$ Time Weighted Weekly

Effluent Concentration (East) = 1.16E-15 uCi/ml

Percentage of Release Limit of = 28.94%

4E-15uCi/ml

West Monitor

	,	Effluent Concentration	2	_
Date	(minutes)	in uCi/ml	Sample Min / Day	Comments
6/24/02	565	1.46E-15	8.25E-13	
6/25/02	525	0.00E+00	0.00E+00	
6/26/02	547	0.00E+00	0.00E+00	
6/27/02	567	1.81E-15	1.03E-12	
6/28/02	540	0.00E+00	0.00E+00	
	2744	3.27F-15	1.85F ₋ 12	

 $C_{\text{avg}} = \sum T_{\text{a,i}} C_{\text{i}}$  $\Sigma T_{s}$ Eq A.9 NUREG 1400

Time Weighted Weekly	
Effluent Concentration (West) =	6.75E-16 uCi/m1
Percentage of Release Limit of =	15.87%

Area Air Monitoring Summary Sheet - Staplex High Volume Pumps (Daily Analysis) 341 East Ohio Street Project - Chicago, IL

Week4

June 24, 2002 - June 28, 2002

				total	cubic	sample		day	after a	nalysis			fou	ır day a	nalysia		% of Limit
Sample	date	heta	atop	time	ft/min	volume	date	gross	pkg	net	Concentration	date	gross	bkg	net	Concentration	4.00E-15
10	sampled	time	time	sampled	(CFM)	analyzed	analyzed	counts	counts	cpm	in uCi/mi	analyzed	counts	counts	cpm	in uCl/ml	uCi/ml
N1013	6/24/02	7:55am	5:28pm	573	39	2.21E+07	6/25/02	154	18	4.53333	7.51E-14	6/28/02	15	19	0	0.00E+00	0.00%
S1013	6/24/02	7:58 <b>e</b> m	5:23pm	565	46	2.58E+07	6/25/02	148	18	4.33333	6.17E-14	6/28/02	18	19	0	0.00E+00	0.00%
E1013	6/24/02	7:55 <b>a</b> m	5:30pm	575	45	2.56E+07	6/25/02	169	18	5.03333	7.20E-14	6/28/02	19	19	0	0.00E+00	0.00%
W1013	6/24/02	7:58am	5:23pm	565	45	2.52E+07	6/25/02	140	18	4.05667	5.92E-14	6/28/02	22	19	0.1	1.46E-15	36.38%
N1014	6/25/02	8:10am	4:40pm	510	41	2.07E+07	6/26/02	374	19	11.8333	2.09E-13	7/1/02	16	20	0	0.00E+00	0.00%
S1014	6/25/02	8:00am	4:50pm	530	48	2.52E+07	6/26/02	393	19	12,4867	1.81E-13	7/1/02	17	20	0	0.00E+00	0.00%
E1014	6/25/02	6:10am	4:40pm	510	54	2.73E+07	6/26/02	450	19	14.3667	1.93E-13	7/1/02	20	20	0	0.00E+00	0.00%
W1014	6/25/02	8:00am	4:45pm	525	43	2.24E+07	6/26/02	483	19	15.4667	2.53E-13	7/1/02	19	20	0	0.00E+00	0.00%
N1015	6/26/02	8:00am	5:14pm	554	54	2.96E+07	6/27/02	216	19	6.56667	8.12E-14	7/1/02	17	20	0	0,00€+00	0.00%
S1015	6/26/02	8:00am	5:12pm	552	48	2.52E+07	6/27/02	289	19	9	1.31E-13	7/1/02	18	20	0	0.00E+00	0.00%
E1015	6/26/02	8:08am	5:15pm	547	45	2.44E+07	6/27/02	277	19	8.6	1.29E-13	7/1/02	22	20	0.067	1.00E-15	25.05%
W1015	6/26/02	8:08am	5:15pm	547	44	2.39E+07	6/27/02	259	19	8	1.23E-13	7/1/02	18	20	0	0.00E+00	0.00%
N1016	6/27/02	6:07am	5:19pm	552	44	2.41E+07	6/28/02	58	19	1.3	1.98E-14	7/2/02	18	16	0.087	1.02E-15	25.39%
S1016	6/27/02	7:59am	5:25pm	566	47	2.64E+07	6/28/02	41	19	0.73333	1.02E-14	7/2/02	16	16	0	0.00E+00	0.00%
E1016	6/27/02	8:03am	5:26pm	563	45	2.51E+07	6/28/02	42	19	0.76667	1.12E-14	7/2/02	19	16	0.1	1.46E-15	38.51%
W1016	6/27/02	7:58am	5:25pm	567	48	2.70E+07	6/28/02	53	19	1.13333	1. <b>54</b> E-14	7/2/02	20	16	0.133	1.81E-15	45.31%
N1017	6/28/02	8:00am	5:05pm	545	42	2.27E+07	7/1/02	24	20	0.13333	2.16E-15	7/2/02	16	16	0	0.00E+00	0.00%
S1017	6/28/02	8:00am	5:00pm	540	50	2.68E+07	7/1/02	22	20	0.06667	9.14E-16	7/2/02	17	18	0.033	4.57E-16	11.42%
E1017	6/28/02	8:00am	5:07pm	547	41	2.22E+07	7/1/02	18	20	0	0.00E+00	7/2/02	22	16	0.2	3.30E-15	82.48%
W1017	6/28/02	8:00am	5:00pm	540	50	2.68E+07	7/1/02	20	20	0	0.00E+00	7/2/02	16	16		0.00E+00	0.00%

# Area Air Monitoring Summary Sheet - Weekly Effluent Concentration Report

341 Eas	t Ohio	Street	Project-	Chicago,	JL,
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North Moi	North Monitor		7/1/02-7/3/0	(High Volume)		
	Time Sampled	Effluent C	oncentration	Concentration x		
Date	(minutes)	in uCi/ml		Sample Min / Day	Comments	
7/1/02	475		0.00E+00	0.00E+00		
7/2/02	496		0.00E+00	0.00E+00		
7/3/02	460		0.00E+00	0.00E+00		
7/4/02	0	Ì			No Work - 4th of July Holiday	
7/5/02	o				No Work - 4th of July Holiday	
	1431		0.00E+00	0.00E+00		

 $C_{\text{avg}} = \frac{\sum T_{\text{s}} C_{\text{i}}}{\sum T_{\text{s}}}$ 

Time Weighted Weekly

Effluent Concentration (North) = 0.00E+00 uCi/ml

Percentage of Release Limit of = 0.00%

Eq A.9 NUREG 1400

4E-15uCi/ml

South Monitor

	Time Sampled	Effluent Concentration	Concentration x								
Date	(minutes)	in uCi/ml	Sample Min / Day	Comments							
7/1/02	470	5.47E-16	2.57E-13								
7/2/02	496	5.41E-16	2.68E-13								
7/3/02	459	0.00E+00	0.00E+00								
7/4/02	0			No Work - 4th of July Holiday							
7/5/02	0			No Work - 4th of July Holiday							
	4405	4.005.45	C 005 40								

1425

1.09E-15

5.25E-13

 $C_{avg} = \Sigma T_{ci} C_i$ 

Eq A.9 NUREG 1400

 $\Sigma T_{s}$ 

Time Weighted Weekly

Effluent Concentration (South) = 3.69E-16 uCi/ml

Percentage of Release Limit of =

4E-15uCi/ml

East Monitor

	Time Sampled	Effluent Concentration	Concentration x	
Date	(minutes)	in uCi/ml	Sample Min / Day	Comments
7/1/02	470	0.00E+00	0.00E+00	
7/2/02	494	0.00E+00	0.00E+00	
7/3/02	455	2.03E-15	9.24E-13	
7/4/02	0			No Work - 4th of July Holiday
7/5/02	0			No Work - 4th of July Holiday
	1419	2.03E-15	9.24E-13	

 $C_{avg} = \sum T_{ij} C_{ij}$ 

Σ T.

Eq A.9 NUREG 1400

Time Weighted Weekly

Effluent Concentration (East) = 6.51E-16 uCi/ml

Percentage of Release Limit of =

16.27%

9.22%

4E-15uCVml

West Monitor

	Time Sampled	Effluent Concentration	Concentration x	
Date	(minutes)	in uCi/ml	Sample Min / Day	Comments
7/1/02	477	1.03E-15	4.91E-13	
7/2/02	505	1.93E-15	9.75E-13	
7/3/02	456	1.42E-15	6.48E-13	
7/4/02	0			No Work - 4th of July Holiday
7/5/02	0			No Work - 4th of July Holiday
	1438	4 38F-15	2 11F-12	

 $C_{\text{avg}} = \underline{\Sigma T_{\text{e.C.}}}$  $\Sigma T_s$ 

Eq A 9 NUREG 1400

Time Weighted Weekly

Effluent Concentration (West) =

36.74%

Percentage of Release Limit of =

1.47E-15 uCi/ml

Week 5

July 1, 2002 - July 3, 2002

				total	oubic	sample		day	after a	aieylen			fou	r day a	nalvais	1	% of Limit
Sample	date	start	stop	time	ft/ min	volume	date	дтова	bkg	net	Concentration	date	gross	bkg	net	Concentration	4.00E-15
ID	belgmag	time	time	sampled	(CFM)	analyzed	anslyzed	counts	counts	cpm	in uCi/m)	analyzed	counts	counts	cpm	in ucimi	uCi/ml
N1018	7/1/02	8:00am	3:55pm	475	35	1.65E+07	7/2/02	272	16	8.53333	1.90E-13	7/8/02	21	22	0	0.00E+00	0.00%
S1018	7/1/02	8:00am	3:50pm	470	48	2.24E+07	7/2/02	286	16	9	1.48E-13	7/8/02	23	22	0.033	5.47E-16	
E1018	7/1/02	8:00am	3:50pm	470	40	1.88E+07	7/2/02	232	16	7.2	1.42E-13	7/8/02	20	22	0	0.00E+00	0.00%
W1018	7/1/02	6:00am	3:57pm	477	50	2.36E+07	7/2/02	317	16	10.0333	1.58E-13	7/8/02	24	22	0.067	1.03E-15	25.85%
N1019	7/2/02	8:01am	4.17pm	498	43	2.11E+07	7/3/02	124	18	3.53333	6.13E-14	7/8/02	16	22	0	0.00E+00	1
S1019	7/2/02	7:58am	4:14pm	496	48	2.26E+07	7/3/02	116	18	3.26687	5.30E-14	7/8/02	23	22	0.033	5.41E-18	
E1019	7/2/02	8:03am	4:17pm	494	42	2.06E+07	7/3/02	91	18	2.43333	4.34E-14	7/8/02	22	22	0	0.00E+00	0.00%
W1019	7/2/02	7:55am	4:20pm	505	38	1.90E+07	7/3/02	144	18	4.2	8.10E-14	7/8/02	25	22	0.1	1.93E-15	48.20%
N1020	7/3/02	8:00am	3:40pm	460	39	1.78E+07	No	Day Af	ter Anal	ysis Perfo	rmed	7/8/02	18	22	0	0.00E+00	0.00%
S1020	7/3/02	8:03am	3.42pm	459	43	1.96E+07		Due to	4th of .	luly Holida	ay .	7/8/02	22	22	0	0.00E+00	0.00%
E1020	7/3/02	B:02am	3:37pm	455	40	1.60E+07			1			7/8/02	25	22	0.1	2.03E-15	50.82%
W1020	7/3/02	7:59am	3:35pm	458	38	1.72E+07			*			7/8/02	24	22	0.067	1.42E-15	35.59%
Only 3 s	ample co	llection da	ys - 4th of	July Holic	lay												

# Area Air Monitoring Summary Sheet - Weekly Effluent Concentration Report 341 East Ohio Street Project- Chicago, IL

North Mor		Week #6 7/8/02-7/12/		(High Volume)
	Time Sampled	Effluent Concentration	Concentration x	
Date	(minutes)	in uCi/ml	Sample Min / Day	Comments
7/8/02	542	0.00E+00	0.00E+00	
7/9/02	540	0.00E+00	0.00E+00	
7/10/02	503	0.00E+00	0.00E+00	
7/11/02	,	0.00E+00	0.00E+00	
7/12/02	1	0.00E+00	0.00E+00	
	2659	0.00E+00	0.00E+00	

$C_{\text{avg}} = \sum_{i} T_{e,i} C_{i}$	Time Weighted Weekly	
$\Sigma  T_{s}$	Effluent Concentration (North) =	0.00E+00 uCi/ml
Eq A.9 NUREG 1400	Percentage of Release Limit of ≈ 4E-15uCl/ml	0.00%

South Monitor

000011110				
1	Time Sampled	Effluent Concentration	Concentration x	
Date	(minutes)	in uCi/ml	Sample Min / Day	Comments
7/8/02	545	9,43E-16	5.14E-13	
7/9/02	545	0.00E+00	0.00E+00	
7/10/02	499	1.07Ë-15	5.34E-13	
7/11/02	523	0.00E+00	0.00E+00	
7/12/02	539	0.00E+00	0.00E+00	
	2651	2.01E-15	1.05E-12	

$C_{\text{avg}} = \sum T_{e,i} C_{i}$	Time Weighted Weekly	
Σ T,	Effluent Concentration (South) =	3.95E-16 uCi/ml
Eq A.9 NUREG 1400	Percentage of Release Limit of = 4E-15uCi/ml	9.88%

East Monitor

Date	Time Sampled (minutes)	Effluent Concentration in uCi/ml	Concentration x Sample Min / Day	Comments
7/8/02				Commons
7/9/02	545	1.74E-15		
7/10/02	504	0.00E+00	0.00E+00	
7/11/02	524	0.00E+00	0.00E+00	
7/12/02	545	0.00E+00	0.00E+00	
	2662	3 29F-15	1 70E-12	

$C_{\text{evg}} = \sum T_{e,i} C_i$	Time Weighted Weekly	
$\Sigma T_s$	Effluent Concentration (East) =	6.73E-16 uCi/ml
Eq A.9 NUREG 1400	Percentage of Release Limit of = 4E-15uCi/ml	16.82%

Date		Effluent Concentration in uCi/ml	Concentration x Sample Min / Day	Comments
		· · · · · · · · · · · · · · · · · · ·		
7/8/02	548	0.00E+00	0.00E+00	
7/9/02	540	5.44E-16	2.94E-13	
7/10/02	502	1.84E-15	9.24E-13	
7/11/02	520	0.00E+00	0.00E+00	
7/12/02	554	0.00E+00	0.00E+00	
	2664	2 38F-15	1 22F-12	

$C_{\text{evg}} = \underline{\Sigma}  \underline{T}_{e,i}  \underline{C}_{i}$	Time Weighted Weekly	
$\Sigma T_s$	Effluent Concentration (West) =	4.57E-16 uCi/ml
Eq A.9 NUREG 1400	Percentage of Release Limit of =	11.42%

Week 6

July 8, 2002 - July 12, 2002

				total	cutoic	sample		day	after a	nalysis			for	ır day a	nalysis		% of Limit
Sample	clate	start	stop	time	ft/ min	volume	date	gross	bkg	net	Concentration	date	gross	bkg	net	Concentration	4.00E-15
ſD	sampled	time	time	sampled	(CFM)	analyzed	analyzed	counts	counts	cpm	in uCi/mi	analyzed	counts	counte	срп	in uCi/mi	uCilmi
N1021	7/8/02	8:00am	5:02pm	542	34	1.83E+07	7/9/02	212	22	6,33333	1.27E-13	7/12/02	17	17	0	0.00E+00	0.00%
S1021	7/8/02	8:00em	5:05pm	545	48	2.59E+07	7/9/02	222	22	6.66667	9.43E-14	7/12/02	19	17	0.067	9.43E-16	23.57%
E1021	7/8/02	8:00am	5:04pm	544	44	2.37E+07	7/9/02	184	22	5.4	8.35E-14	7/12/02	20	17	0.1	1.55€-15	38.64%
W1021	7/8/02	8:00am	5:08pm	548	47	2.55E+07	7/9/02	326	22	10.1333	1.46E-13	7/12/02	17	17	0	0.00E+00	0.00%
N1022	7/9/02	8:00am	5:00pm	540	50	2.68E+07	7/10/02	101	18	2.76667	3.79E-14	7/15/02	16	17	O	0.00E+00	0.00%
S1022	7/9/02	8:00am	5:05pm	545	51	2.75E+07	7/10/02	102	18	2.8	3.73E-14	7/15/02	17	17	0	0.00E+00	0.00%
E1022	7/9/02	8:00am	5:05pm	545	39	2.11E+07	7/10/02	82	18	2,13333	3.71E-14	7/15/02	20	17	0.1	1.74E-15	43.52%
W1022	7/9/02	8:00am	5:00pm	540	42	2.25E+07	7/10/02	132	18	3.8	6.20E-14	7/15/02	18	17	0.033	5.44E-16	13.59%
N1023	7/10/02	7:57am	4:20pm	503	48	2.39E+07	7/11/02	57	19	1.26667	1.94E-14	7/15/02	16	17	0	0.00E+00	0.00%
S1023	7/10/02	8:01am	4:20pm	499	46	2.27E+07	7/11/02	54	19	1.16687	1.88E-14	7/15/02	19	17	0.067	1.07E-15	26.86%
E1023	7/10/02	7:59am	4:23pm	504	40	2.00E+07	7/11/02	55	19	1.2	2.20E-14	7/15/02	16	17	0	0.00E+00	0.00%
W1023	7/10/02	7:58am	4:20pm	502	40	1.99E+07	7/11/02	84	19	2.16667	3.99E-14	7/15/02	20	17	0.1	1.84E-15	48.06%
N1024	7/11/02	8:04am	4:45pm	521	50	2.58E+07	7/12/02	51	17	1.13333	1.61E-14	7/16/02	18	21	0	0.00E+00	0.00%
S1024	7/11/02	8:02am	4:45pm	523	49	2.54E+07	7/12/02	76	17	1.96667	2.84E-14	7/18/02	19	21	0	0.00E+00	0.00%
E1024	7/11/02	8:06am	4:50pm	524	45	2.34E+07	7/12/02	38	17	0.7	1.10E-14	7/16/02	18	21	0	0.00E+00	0.00%
W1024	7/11/02	8:10am	4:50pm	520	43	2.22E+07	7/12/02	77	17	2	3.31E-14	7/16/02	17	21	0	0.00E+00	0.00%
N1025	7/12/02	8:02am	5:15pm	553	46	2.52E+07	7/15/02	21	17	0.13333	1.94E-15	7/16/02	16	21	0	0.00E+00	0.00%
S1025	7/12/02	8:06am	5:05pm	539	49	2.62E+07	7/15/02	19	17	0.06667	9.34E-16	7/18/02	17	21	0	0.00E+00	0.00%
E1025	7/12/02	8:03am	5:08pm	545	43	2.32E+07	7/15/02	16	17	0	0.00E+00	7/18/02	18	21	0	0.00E+00	0.00%
W1025	7/12/02	7:58am	5:12pm	554	49	2.69E+07	7/15/02	25	17	0.26667	3.63E-15	7/16/02	16	21	0	0.00E+00	0.00%

# Area Air Monitoring Summary Sheet - Weekly Effluent Concentration Report 341 East Ohio Street Project- Chicago, IL

North Moi	iltor	Week #7 7/16/02-7/19	9/02	(High Volume)
	Time Sampled	Effluent Concentration	Concentration x	
Date	(minutes)	in uCi/ml	Sample Min / Day	Comments
7/15/02	551	0.00E+00	0.00E+00	
7/16/02	476	0.00E+00	0.00E+00	
7/17/02	549	1.10E-15	6.04E-13	
7/18/02	473	0.00E+00	0.00E+00	
7/19/02	546	0.00E+00	0.00E+00	_
	2595	1.10E-15	6.04E-13	

 $C_{\text{avg}} = \underline{\Sigma T_{\text{e,i}} C_{\text{i}}}$   $\Sigma T_{\text{e}}$ 

Time Weighted Weekly

Effluent Concentration (North) =

2.33E-16 uCi/ml

Eq A.9 NUREG 1400

Percentage of Release Limit of = 4E-15uCi/ml

5.82%

South Monitor

	Time Sampled	Effluent Concentration	Concentration x	
Date	(minutes)	in uCi/mi	Sample Min / Day	Comments
7/15/02	546	8.86E-16	4.84E-13	
7/16/02	477	0.00E+00	0.00E+00	
7/17/02	541	0.00E+00	0.00E+00	
7/18/02	475	1.15E-15	5.46€-13	
7/19/02	536	0.00E+00	0.00E+00	
	2575	2.04E-15	1.03E-12	

 $C_{\text{evg}} = \underline{\Sigma} \, T_{\text{el}} \, \underline{C}_{\text{l}}$ 

Time Weighted Weekly

Effluent Concentration (South) =

4.00E-16 uCi/ml

Eq A.9 NUREG 1400

 $\Sigma T_s$ 

Percentage of Release Limit of =

10.00%

4E-15uCVm/

East Monitor

V-0	Time Sampled	Effluent Concentration	Concentration x	
Date	(minutes)	in uCi/ml	Sample Min / Day	Comments
7/15/02	544	0.00E+00	0.00E+00	
7/16/02	478	0.00E+00	0.00E+00	
7/17/02	541	0.00E+00	0.00E+00	
7/18/02	477	0.00E+00	0.00E+00	
7/19/02	540	0.00E+00	0.00E+00	
	2580	0.00E+00	0.005+00	

 $C_{avg} = \sum T_{k,l} C_{l}$   $\sum T_{g}$ Eq A.9 NUREG 1400

Time Weighted Weekly

Effluent Concentration (East) = 0.00E+00 uCi/ml

Percentage of Release Limit of = 0.00%

Date		Effluent Concentration in uCi/ml	Concentration x Sample Min / Day	Comments
7/15/02	551	0.00E+00	0.00E+00	
7/16/02	474	1.16E-15	5.50E-13	
7/17/02	549	0.00E+00	0.00E+00	
7/18/02	483	5.94E-16	2.87E-13	
7/19/02	546	0.00E+00	0.00E+00	
	2603	1 75F-15	8.37F-13	

 $C_{\text{avg}} = \underline{\Sigma T_{\text{-}i} C_i}$  $\Sigma T_s$ Eq A.9 NUREG 1400

Time Weighted Weekly	
Effluent Concentration (West) =	3.21E-16 uCî/ml
Percentage of Release Limit of =	8.04%

Week 7

July 15, 2002 - July 19, 2002

				oury 1	-,		<b>V, 2002</b>										
				total	cubic	sample		day	after a	natysis			fou	r day a	nalysis		% of Limit
Sample	dete	<b>start</b>	stop	time	fl/ min	volume	dete	gross	bkg	net	Concentration	date	gross.	bkg	net	Concentration	4.00E-15
ID .	sampled	time	time	sampled	(CFM)	annifyzed	amatyzed	counts	counts	cpm	in uCi/mi	analyzed	counts	counts	cpm	in uCVmi	uCMM
N1028	7/15/02	8:08am	5:19pm	551	59	3.22E+07	7/16/02	110	21	2.96667	3.38E-14	7/19/02	16	17	0	0.00E+00	0.00%
S1026	7/15/02	8:06am	5:12pm	546	51	2.76E+07	7/16/02	209	21	6.26667	8.33E-14	7/19/02	19	17	0.067	8.88E-16	22.14%
E1026	7/15/02	8:10em	5:14pm	544	41	2.21E+07	7/18/02	115	21	3.13333	5.20E-14	7/19/02	17	17	0	0.00E+00	0.00%
W1026	7/15/02	6:04 <b>a</b> m	5:15pm	551	42	2.29E+07	7/16/02	183	21	5.4	8.63E-14	7/19/02	16	17	0	0.00E+00	0.00%
N1027	7/16/02	8:02am	3:58pm	476	53	2.50E+07	7/17/02	214	22	8.4	9.39E-14	7/22/02	18	18	0	0.00E+00	0.00%
81027	7/16/02	8:03am	4:00pm	477	53	2.51E+07	7/17/02	188	22	4,86667	7,12E-14	7/22/02	17	18	0	0.00E+00	0.00%
E1027	7/16/02	8:05am	4:03pm	478	49	2.32E+07	7/17/02	157	22	4.5	7.11E-14	7/22/02	18	18	O	0.00E+00	0.00%
W1027	7/15/02		3:55pm	474	45	2.11E+07	7/17/02	251	22	7.63333	1.32E-13	7/22/02	20	18	0.067	1.1 <b>6E-1</b> 5	28.91%
N1028	7/17/02		5:12pm	549	41	2.23E+07	7/18/02	214	18	6.53333	1.07E-13	7/22/02	20	18	0.087	1.10E-15	27.39%
S1028	7/17/02	8:04am	5:05pm	541	48	2.57E+07	7/18/02			5	7.12E-14	7/22/02	16	18	0	0.00E+00	0.00%
E1028	7/17/02	8:05am	5:07pm	541	40	2.14E+07	7/18/02	157	18	4.63333	7.92E-14	7/22/02	18	18	0	0.00E+00	D.00%
W1028	7/17/02	8:01em	5:10pm	549	40	2.18E+07	7/18/02	251	18	7.76667	1.31E-13	7/22/02	16	18	0	0.00E+00	0.00%
N1029	7/18/02	8:02am	3:55pm	473	37	1.73E+07	7/19/02	220	17	6.76667	1.43E-13	7/23/02	15	17	0	0.00E+00	0.00%
S1029	7/18/02	8:00am	3:55pm	475		2.12E+07	7/19/02	225	17	6.93333	1.20E-13	7/23/02	19	17	0.067	1.15E-15	28.85%
E1029	7/18/02	7:59am	3:56pm	477	47	2.22E+07	7/19/02	191	17	5.B	9.57E-14	7/23/02	17	17	0	0.00E+00	0.00%
W1028	7/18/02	7:58am	3:59pm	483	43	2.06E+07	7/19/02	236	17	7.3	1.30E-13	7/23/02	18	17	0.033	5,94E-16	14.84%
N1030	7/19/02	8:04am	5:10pm	546		2.38E+07	7/22/02			0.2	3.08E-15	7/24/02	18	21	C	0.00E+00	0.00%
S1030	7/19/02		5:03pm	536			•			0.06867	1.07E-15	7/24/02	17	' 21	0	0.00E+00	0.00%
E1030	7/19/02		5:05pm	540		2.35E+07						7/24/02	19	21	C	0.00E+00	0.00%
W1030	7/19/02		5:08pm	546					18	0.16667	2.51E-15	7/24/02	18	3 21	. (	0.00E+00	0.00%

# Area Air Monitoring Summary Sheet - Weekly Effluent Concentration Report 341 East Ohio Street Project- Chicago, IL

North Moi	n/tor	Week #8 7/22/02-7/20	5/02	(High Volume)
Date	Time Sampled (minutes)	Effluent Concentration in uCi/ml	Concentration x Sample Min / Day	Comments
7/22/02	491	1.12E-15	5.50E-13	
7/23/02	485	0.00E+00	0.00E+00	
7/24/02	567	0.00E+00	0.00E+00	
7/25/02	562	0.00E+00	0.00E+00	
7/26/02	536	4.70E-16	2.52E-13	
	2841	1.59E-15	8.02E-13	· · · · · · · · · · · · · · · · · · ·

 $C_{\text{avg}} = \underline{\Sigma T_{\text{e,l}} C_{\text{l}}}$  $\Sigma T_{\text{e}}$ 

Time Weighted Weekly
Effluent Concentration (North) = 3.04E-16 uCi/ml

Eq A.9 NUREG 1400

Percentage of Release Limit of = 7.59%

4E-15uCVml

South Monitor

	Time Sampled	Effluent Concentration	Concentration x	
Date		in uCi/ml	Sample Min / Day	Comments
7/22/02	482	0.00E+00	0.00E+00	
7/23/02	476	0.00E+00	0.00E+00	
7/24/02	561	0.00E+00	0.00E+00	
7/25/02	548	0.00E+00	0.00E+00	
7/26/02	531	1.24E-15	6.58E-13	_
	2598	1.24E-15	6.58 <b>E-1</b> 3	

 $C_{\text{evg}} = \underline{\Sigma \, T_{\text{e,i}} \, C_{\text{i}}}$ 

Time Weighted Weekly

Percentage of Release Limit of =

Σ T_s
Eq A.9 NUREG 1400

Effluent Concentration (South) = 2.63E-16 uCi/ml

6.34%

4E-15uCi/mi

East Monitor

- LUCK 177 (777)										
<u> </u>	Time Sampled	Effluent Concentration	Concentration x							
Date	(minutes)	in uCi/mi	Sample Min / Day	Comments						
7/22/02	489	0.00E+00	0.00E+00							
7/23/02	483	0.00E+00	0.00E+00							
7/24/02	581	0.00E+00	0.00E+00							
7/25/02	554	0.00E+00	0.00E+00							
7/26/02	532	0.00E+00	0.00E+00							
	2619	0.00=+00	0.00E+00							

 $C_{\text{evg}} = \underline{\Sigma} \, \underline{\mathsf{T}}_{\text{a,i}} \, \underline{\mathsf{C}}_{\text{i}}$   $\underline{\Sigma} \, \underline{\mathsf{T}}_{\text{a}}$ Eq A.9 NUREG 1400

Time Weighted Weekly

Effluent Concentration (East) = 0.00E+00 uCi/ml

Percentage of Release Limit of = 0.00%

_	Time Sampled	Effluent Concentration	Concentration x	
Date	(minutes)	in uCi/mi	Sample Min / Day	Comments
7/22/02	482	5.33E-16	2.57E-13	
7/23/02	476	5.51E-16	2.62E-13	
7/24/02	536	0.00E+00	0.00E+00	
7/25/02	559	0.00E+00	0.00E+00	
7/26/02	537	0.00E+00	0.00E+00	
	2590	1.08E-15	5.19E-13	

4 480

$C_{\text{avg}} = \underline{\Sigma}  \underline{T}_{\text{el}}  \underline{C}_{\text{l}}$	Time Weighted Weekly	
ΣTs	Effluent Concentration (West) =	2.00E-16 uCi/ml
Eq A.9 NUREG 1400	Percentage of Release Limit of =	5.01%

Week 8

July 22, 2002 - July 26, 2002

			<del>                                      </del>	total	cubic	sample		da	after a	n alsonia			44.				% of Limit
			1.	1 1		•					<u> </u>			r day =			1
Sample	date	start	atop	time	ft/m/n	volume	ciate	groes	bkg	net	Concentration	date	gross	plat	net	Concentration	4.00E-15
D	sampled	time	tirne	sampied	(CFM)	analyzed	analyzed	counts	counts	cpm	in uCl/mt	analyzed	counts	counts	срп	in uCi/mi	uCilmi
N1031	7/22/02	8:04am	4:15pm	491	45	2.19E+07	7/23/02	362	17	11.5	1.93E-13	7/26/02	23	21	0.067	1.12E-15	27.91%
S1031	7/22/02	8:08am	4:10pm	482	44	2.10E+07	7/23/02	337	17	10.6667	1.88E-13	7/26/02	20	21	O	0.00E+00	0.00%
E1031	7/22/02	8:06am	4:15pm	489	41	1.99E+07	7/23/02	339	17	10.7333	1.98E-13	7/26/02	21	21	0	0.00E+00	0.00%
W1031	7/22/02	8:10am	4:12pm	482	48	2.29E+07	7/23/02	291	17	9.13333	1.48E-13	7/26/02	22	21	0.033	5.33E-16	13.33%
N1032	7/23/02	7:55em	4:00pm	485	59	2.84E+07	7/24/02	23	21	0.06667	8.62E-16	7/28/02	18	21	0	0.00E+00	0.00%
S1032	7/23/02	7:59am	3:55pm	476	37	1.75E+07	7/24/02	25	21	0.13333	2.80€-15	7/29/02	17	21	0	0.00E+00	0.00%
E1032	7/23/02	7:57am	4:00pm	483	43	2.08E+07	7/24/02	31	21	0.33333	5.94E-15	7/29/02	16	21	0	0.00E+00	0.00%
W1032	7/23/02	8:08am	4:04pm	476	47	2.22E+07	7/24/02	27	21	0.2	3.31E-15	7/29/02	22	21	0.033	5.51E-16	13.78%
N1033	7/24/02	8:05am	5:32pm	567	51	2.87E+07	7/25/02	55	20	1.16687	1.49E-14	7/29/02	16	21	0	0.00E+00	0.00%
S1033	7/24/02	8:10am	5:31pm	561	43	2.39E+07	7/25/02	67	20	1.58667	2.40E-14	7/29/02	17	21	0	0.00E+00	0.00%
E1033	7/24/02	8:10am	5:31pm	561	40	2.22E+07	7/25/02	66	20	1.53333	2.53E-14	7/29/02	19	21	0	0.00E+00	0.00%
W1033	7/24/02	8:04am	5:00pm	5 <b>36</b>	49	2.60E+07	7/25/02	49	20	0.96667	1.36E-14	7/29/02	20	21	0	0.00E+00	0.00%
N1034	7/25/02	7:59am	5:21pm	562	43	2.39E+07	7/26/02	284	21	8.76667	1.34E-13			18	0	0.00E+00	0.00%
S1034	7/25/02	8:02am	5:10pm	548	51	2.77E+07	7/26/02	261	21	В	1.08E-13	7/30/02	18	18	0	0.00E+00	0.00%
E1034	7/25/02	8:01am	5:15pm	554	40	2.20E+07	7/26/02	203	21	6.06667	1.01E-13	7/30/02	18	18	0	0.00E+00	0.00%
W1034	7/25/02	7:58am	5:17pm	55 <del>9</del>	46	2.55E+07	7/26/02	210	21	6.3	9.06E-14	7/30/02	18	18	0	0.00E+00	0.00%
N1035		7:51am	4:47pm	536		2.60E+07	7/29/02	31		0.33333		7/31/02	18	17		4,70E-16	B
S1035		7:54 <b>a</b> m	4:45pm	531	58	2.95E+07	7/29/02			0.43333				17		1,24E-15	
E1035		7:58am	4:50pm	532	41	2.16E+07	7/29/02	34		0.43333				17	0		
W1035		7:55em	4:52pm	537				36		0.5	-			17	ō		

### Area Air Monitoring Summary Sheet - Weekly Effluent Concentration Report 341 East Ohio Street Project- Chicago, IL

North Monitor		Week #9 7/29/02-8/2	/02	(High Volume)		
	Time Sampled	Effluent Concentration	Concentration x			
Date	(minutes)	in uCi/ml	Sample Min / Day	Comments		
7/29/02	570	4.10E-16	2.37E-13			
7/30/02	528	1.59E-15	8.40E-13			
7/31/02	543	0.00E+00	0.00E+00			
8/1/02	522	0.00E+00	0.00E+00			
8/2/02	560	0.00E+00	0.00E+00			
	2723	2.01E-15	1.08E-12	,		

 $C_{\text{evg}} = \Sigma \underline{T_{\text{a}} C_{\text{i}}}$ 

ΣΤ

Eq A 9 NUREG 1400

Time Weighted Weekly

Effluent Concentration (North) =

3.95E-16 uCi/ml

Percentage of Release Limit of = 4E-15uCi/ml

9.88%

South Monitor

Date	,	Effluent Concentration in uCi/ml	Concentration x Sample Min / Day	Commanda
		<u> </u>		Comments
7/29/02	499	0.00E+00	0.00E+00)	
7/30/02	554	8.09E-16	4,48E-13	
7/31/02	528	1.58E-15	8.24É-13	
8/1/02	513	1.14 <u>E</u> -15	5.85E-13	
8/2/02	5 <u>5</u> 6	0.00E+00	0.00E+00	
	2850	3.51E-15	1.88E-12	

Com = STar Ca

 $\Sigma T_n$ 

Eq A.9 NUREG 1400

Time Weighted Weekly

Effluent Concentration (South) =

7.01E-16 uCI/ml

17.52%

Percentage of Release Limit of = 4E-15uCi/ml

East Monitor

		Effluent Concentration		•
Date	(minutes)	in uCl/ml	Sample Min / Day	Comments
7/29/02	579	1.21E-15	7.01E-13	•
7/30/02	552	0.00E+00	0.00E+00	
7/31/02	533	0.00E+00	0.00E+00	
8/1/02	521	0.00E+00	0.00E+00	
8/2/02	559	0.00E+00	0.00E+00	
	2744	1.21E-15	7.01E-13	

 $C_{\text{evg}} = \sum T_{e_1} C_1$ 

 $\Sigma T_{\kappa}$ 

Eq A 9 NUREG 1400

Time Weighted Weekly

Effluent Concentration (East) = Percentage of Release Limit of =

6.38%

2.66E-16 uCi/ml

Date	1 '	Effluent Concentration in uCl/ml	Concentration x Sample Min / Day	Comments
7/29/02	543	0.00E+00	0.00E+00	
7/30/02	555	1.45E-15	8.05E-13	
7/31/02		5.16E-16	2.80E-13	
8/1/02	515	0.00E+90	0.00E+00	
8/2/02	•	,		
	2721	1 97F-15	1 08F-12	

$C_{\text{evg}} \equiv \sum T_{\text{e,i}} C_{\text{i}}$
$\Sigma T_s$
Eq A.9 NUREG 1400

Time Weighted Weekly	
Effluent Concentration (West) =	3,99E-16 uCl/mi
Percentage of Release Limit of =	9.97%

Week 9

July 29, 2002 - August 2, 2002

			1	total	cubic	sample		day	after a	nalvala			for	er day a	nalvale		% of Limit
	4.4.	-44		time	fV min	volume	deta	pross	bkg	net	Concentration	date		_			
Sample	delle	stæri	stop			4	-	} ~					gross	bkg	net	Concentration	4.00E-15
0	sempled	time	time	sempled	(CFM)	analyzed	analyzad	counts	counts	cpm	in uclimi	analyzad	counts	counts	cpm	in uCi/mi	uCi/mi
N1036	7/29/02	8:10am	5:40pm	570	52	2.94E+07	7/30/02	221	18	6.76687	8.45E-14	8/2/02	18	17	0.033	4.16E-18	10.40%
S1036	7/29/02	9:16am	5:35pm	499	62	3.07E+07	7/30/02	191	18	5.76667	6.90E-14	8/2/02	16	17	0	0.00E+00	0.00%
E1036	7/29/02	8:05am	5:44pm	579	53	3.04E+07	7/30/02	220	18	6.73333	8.12E-14	8/2/02	20	17	0.1	1.21E-15	30,14%
W1036	7/29/02	8:31am	5:34pm	543	55	2.96E+07	7/30/02	267	18	8.3	1.03E-13	8/2/02	16	17	0	0.00E+00	0.00%
N1037	7/30/02	8:07am	4:55pm	528	44	2.30E+07	7/31/02	82	17	2.16667	3.45E-14	8/5/02	22	19	0.1	1.5 <del>9E</del> -15	39.81%
S1037	7/30/02	8:10am	5:24pm	554	55	3.02E+07	7/31/02	75	17	1.93333	2.35E-14	8/5/02	21	19	0.067	8.09E-16	20.24%
E1037	7/30/02	8:08am	5:20pm	552	43	2.35E+07	7/31/02	49	17	1.06667	1.68E-14	8/5/02	18	19	0	0.00E+00	0.00%
W1037	7/30/02	8:03am	5:18pm	555	46	2.53E+07	7/31/02	72	17	1.83333	2.86E-14	8/5/02	22	19	0.1	1.45E-15	36.23%
N1038	7/31/02	8:10am	5:13pm	543	51	2.74E+07	8/1/02	183	16	5.58687	7.44E-14	8/5/02	17	19	0	0.00E+00	0.00%
S1038	7/31/02	8:17am	5: <b>05</b> pm	528	45	2.35E+07	8/1/02	185	16	5.63333	8.77E-14	8/5/02	22	19	0.1	1.58E-15	38.93%
E1038	7/31/02	8:15am	5:08pm	533	48	2.54E+07	8/1/02	216	16	6.66667	9.64E-14	8/5/02	18	19	0	0.00E+00	0.00%
W1038	7/31/02	8:06am	5:09pm	543	44	2.37E+07	8/1/02	255	16	7.98687	1.23E-13	8/5/02	20	19	0.033	5.16E-18	12.90%
N1039	8/1/02	7:58am	4:40pm	522	50	2.59E+07	8/2/02	160	17	4.76867	6.78E-14	8/6/02	20	22	0	0.00E+00	0.00%
S1039	8/1/02	6:02am	4:35pm	513	42	2.14E+07	8/2/02	155	17	4.6	7.90E-14	8/8/02	24	22	0.067	1.14E-15	28.62%
E1039	8/1/02	8:00am	4:41pm	521	44	2.27E+07	8/2/02	131	17	3.8	6.13E-14	8/8/02	18	22	0	0.00E+00	0.00%
W1039	8/1/02	8:05am	4:40pm	515	48	2.45E+07	8/2/02	2 206	17	6.3	9.43E-14	8/8/02	19	22	0	0.00E+00	0.00%
N1040	8/2/02	8:00am	5:20pm	560	47	2.61E+07	8/5/02	2 16	19		0.00E+00	8/7/02	18	3 20	0	0.00E+00	0.00%
S1040		2 8:02am	5:18pm	556	44	2.42E+07	8/5/02	2 2	19	0.1	1.51E-15	8/7/02	16	20	0	0.00E+00	0.00%
E1040		8:00am	5:19pm	559	39	2.16E+07	8/5/02	2 16	19		0.00E+00	8/7/02	2 18	3 20	0	0.00E+00	0.00%
W1040		2 8:00am	5:25pm	565		3.14E+07	8/5/02	2 28	3 19	0.3	3.51E-15	8/7/02	20	) 20	0		

# Area Air Monitoring Summary Sheet - Weekly Effluent Concentration Report 341 East Ohio Street Project- Chicago, IL

North Monitor		Week #10 8/6/02-8/9	/02	(High Volume)
Date		Effluent Concentration in uCi/ml	Concentration x Sample Min / Day	Comments
8/5/02	552	1.52E-15		
8/6/02	542	0.00E+00	0.00€+00	
8/7/02	502	0.00E+00	0.00E+00	
8/8/02	586	0.00E+00	1	
8/9/02	469	0.00E+00		
	2831	1.52E-15	8.39E-13	

 $C_{\text{ang}} = \underline{\sum T_{\text{s,i}} C_{\text{s}}}$ 

 $\Sigma T_n$ 

Time Weighted Weekty

Effluent Concentration (North) = 3.19E-16 uCi/mi

Eq A.9 NUREG 1400

Percentage of Release Limit of =

7.97%

4E-15uCVml

South Monitor

Date	Time Sampled (minutes)	Effluent Concentration in uCl/ml	Concentration x Sample Min / Day	Comments
8/5/02	541	0.00E+00	0.00E+00	
8/6/02	551	0.00E+00	0.00E+00	
8/7/02	502	0.00E+00	0.00E+00	
8/8/02	588	0.00E+00		
8/9/02		• • • • • • • • • • • • • • • • • • • •	· ·	
	2665	1.32E-15	6.67E-13	

 $C_{exp} \simeq \sum T_{ei} C_i$ 

 $\Sigma T_n$ 

Time Weighted Weekly

Effluent Concentration (South) = 2.50E-16 uCi/ml

Eq A.9 NUREG 1400

Percentage of Release Limit of =

6.25%

4E-15uCi/ml

**East Monitor** 

Date	· ·	Effluent Concentration in uCi/ml	Concentration x Sample Min / Day	Comments
8/5/02	542	0.00E+00	0.00E+00	
8/6/02	551	0.00E+00	0.00E+00	
8/7/02	499	0.00E+00	0.00E+00	
8/8/02	584	1,82E-15	1.03E-12	
8/9/02	492	2.21E-15	1.09E-12	
	2648	4.03E-15	2.11E-12	

 $C_{exp} = \sum T_{e,i} C_i$ 

 $\Sigma T_n$ 

Time Weighted Weekly
Effluent Concentration (East) *

7.98E-16 uCi/mi

Eq A.9 NUREG 1400

Percentage of Release Limit of =

19.96%

Date		Effluent Concentration in uCi/ml	Concentration x Sample Min / Day	Comments
8/5/02	544	0.00E+00	0.00E+00	
8/6/02	533	4.21E-16	2.24E-13	
8/7/02	514	1.44E-15	7.40E-13	
8/8/02	573	6.15E-18	3.52E-13	
8/9/02	517	4.68E-16	2.42E-13	
	2681	2 94E-15	1.56E-12	

 $C_{avg} = \underline{\sum T_{a,i} C_i}$   $\underline{\sum T_a}$ Eq A.9 NUREG 1400

Time Weighted Weekly	
Effluent Concentration (West) =	5.81E-16 uCVml
Percentage of Release Limit of =	14.54%

Week 10

August 5, 2002 - August 9, 2002

			T	total	cubic	sample				a alvaia				,, des .	1 1 -		8/ ad 1 leak
_			١.	1		•			after a					ir day a			% of Limit
Sample	dete	etert	etop	time	ft/ min	volume	dete	Suces.	b <b>kg</b>	nat	Concentration		grosa	blag	net	Concentration	4.00E-15
ID .	sampled	time	time	eempled	(CFM)	ensiyzed	anelyzed	counts	counts	cpm	in uCl/ml	anetyzed	counts	COUNTS	opm	in ucvmi	u:Ci/ml
N1041	8/5/02	6:08am	5:20pm	552	44	2.41E+07	8/8/02	41	22	0.63333	9.65E-15	8/9/02	21	18	0.1	1.52E-15	38.08%
81041	8/5/02	8:15am	5:16pm	541	52	2.78E+07	8/8/02	40	22	0.6	7.89E-15	B/9/02	16	18	0	0.00E+00	0.00%
E1041	8/5/02	8:13am	5:15pm	542	42	2.28E+07	8/8/02	33	22	0.36867	5.98E-15	8/9/02	18	18	0	0.00E+00	0.00%
W1041	8/5/02	8:10am	5:14pm	544	42	2.28E+07	8/8/02	65	22	1.48887	2.37E-14	8/9/02	18	18	0	0.00E+00	0.00%
N1042	8/8/02	8:08am	5:10pm	542	48	2.58E+07	8/7/02	40	20	0.86867	9.48E-15	8/12/02	18	21	0	0.00E+00	0.00%
81042	8/8/02	7:50am	5:01pm	551	44	2.40E+07	8/7/02	31	20	0.38687	5.60E-15	8/12/02	19	21	O	0.00E+00	0.00%
E1042	8/8/08	7:55am	5:06pm	551	43	2.35E+07	8/7/02	23	20	0.1	1.56E-15	8/12/02	16	21	0	0.00E+00	0.00%
W1042	8/8/02	8:12am	5:05pm	533	55	2.91E+07	8/7 <i>1</i> 02	27	20	0.23333	2.94E-15	8/12/02	22	21	0.033	4.21E-18	10.52%
N1043	8/7/02	7:53em	4:15pm	502	48	2.29E+07	8/8/02	35	19	0.53333	8.54E-15	8/12/02	18	21	0	0.00E+00	0.00%
61043	8/7/02	7:58am	4:20pm	502	48	2.29E+07	8/8/02	30	19	0.36867	5.87E-15	8/12/02	20	21	0	0.00E+00	0.00%
E1043	B/7/02	7:56am	4:15pm	499	51	2.52E+07	8/8/02	22	19	0.1	1.45E-15	8/12/02	18	21	0	0.00E+00	0.00%
W1043	8/7/02	7:61am	4:25pm	514	50	2.55E+07	8/8/02	52	19	1.1	1.58E-14	B/12/02	24	21	0.1	1.44E-15	35.99%
N1044		7:59am	5:25pm	566	58	3.14E+07	8/9/02	79	18	2.03333	2.37E-14	B/13/02	: 17	17	0	0.00E+00	0.00%
81044		8:04am	5:30pm	566	43	2.41E+07	8/9/02	50	18	1.08867		4	16	3 17	0	0.00E+00	1
E1044		8:01am	5:25pm	564	48	2.88E+07			18	0.73333	1.00E-14	8/13/02	21	17	0.133	1.82E-15	
W1044		7:56am	5:29pm	573	35	1.99E+07						8/13/02					
N1045		8:01am	3:50pm	489	51	2.37E+07				0.03333			• -				
81045		8:05am	4:30pm	505		1.85E+07				0	0.00E+00				_		
E1045		8:23am	4:35pm	492		1.66E+07	B			•		1					
W1045		7:58am	4:35pm	617	51	2.61E+07					1.40E-15						1

# Area Air Monitoring Summary Sheet - Weekly Effluent Concentration Report

341 East Ohio Street Project- Chicago, IL

North Monitor		Week #11 8/12/02-8/	16/02	(High Volume)
Time Sample		Effluent Concentration	Concentration x	
Date	(minutes)	in uCi/ml	Sample Min / Day	Comments
8/12/02	564	0.00E+00	0.00E+00	
8/13/02	562	0.00E+00	0.00E+00	
8/14/02	560	0.00E+00	0.00E+00	
8/15/02	555	0.00E+00	0.00E+00	
8/16/02	488	0.00E+00	0.00E+00	
	2729	0.00F+00	0.00E+00	

$C_{avg} = \Sigma T_{s,i} C_i$	Time Weighted Weekly	
$\Sigma T_s$	Effluent Concentration (North) =	0.00E+00 uCi/ml
Eq A.9 NUREG 1400	Percentage of Release Limit of = 4E-15uCi/ml	0.00%

### South Monitor

	Time Sampled	Effluent Concentration	Concentration x	
Date	(minutes)	in uCi/ml	Sample Min / Day	Comments
8/12/02	560	0.00E+00	0.00E+00	
8/13/02	555	1.48E-15	8.21E-13	
8/14/02	558	0.00E+00	0.00E+00	
8/15/02	552	0.00E+00	0.00E+00	
8/16/02	487	0.00E+00	0.00E+00	
	2712	1.48E-15	8.21E-13	

Time Weighted Weekly	
Effluent Concentration (South) =	3.03E-16 uCi/ml
Percentage of Release Limit of =	7.57%
	Effluent Concentration (South) =

### East Monitor

Time Sample		Effluent Concentration	Concentration x	
Date	(minutes)	in uCi/ml	Sample Min / Day	Comments
8/12/02	564	0.00E+00	0.00E+00	
8/13/02	558	0.00E+00	0.00E+00	
8/14/02	563	0.00E+00	0.00E+00	
8/15/02	553	0.00E+00	0.00E+00	
8/16/02	482	1.35E-15	6.51E-13	
	2720	1 35F-15	6 51E-13	

$C_{avg} = \Sigma T_{s,i} C_i$	Time Weighted Weekly	
$\Sigma T_s$	Effluent Concentration (East) =	2.39E-16 uCi/ml
Eq A.9 NUREG 1400	Percentage of Release Limit of = 4E-15uCi/ml	5.98%

Date		Effluent Concentration in uCi/ml	Concentration x Sample Min / Day	Comments
8/12/02	564	9.11E-16	5.14E-13	
8/13/02	562	1.32E-15	7.42E-13	
8/14/02	564	0.00E+00	0.00E+00	
8/15/02	553	0.00E+00	0.00E+00	
8/16/02	489	0.00E+00	0.00E+00	
	2732	2.23E-15	1.26E-12	

 $C_{avg} = \underline{\Sigma T_{s,i} C_i}$   $\underline{\Sigma T_s}$ Eq A.9 NUREG 1400

441.4

Time Weighted Weekly	<del></del>
Effluent Concentration (West) =	4.60E-16 uCi/ml
Percentage of Pelease Limit of =	11 /109/

Week 11 August 12, 2002 - August 16, 2002

				total	cubic	sample		day	after a	nalysis			fou	ır day a	nalysis		% of Limit
Sample	date	start	stop	time	ft/ min	volume	date	gross	bkg	net	Concentration	date	gross	bkg	net	Concentration	4.00E-15
מו	sampled	time	time	sampled	(CFM)	analyzed	analyzed	counts	counts	cpm	in uCi/ml	analyzed	counts	counts	cpm	in uCi/mi	uCi/ml
N1046	8/12/02	8:03am	5:27pm	564	41	2.29E+07	8/13/02	472	17	15.1667	2.43E-13	8/16/02	20	20	0	0.00E+00	0.00%
S1046	8/12/02	8:05am	5:25pm	560	45	2.50E+07	8/13/02	353	17	11.2	1.64E-13	8/16/02	16	20	0	0.00E+00	0.00%
E1046	8/12/02	8:04am	5:28pm	564	44	2.46E+07	8/13/02	277	17	8.66667	1.29E-13	8/16/02	20	20	0	0.00E+00	0.00%
W1046	8/12/02	8:01am	5:25pm	564	48	2.68E+07	8/13/02	450	17	14.4333	1.97E-13	8/16/02	22	20	0.067	9.11E-16	22.78%
N1047	8/13/02	8:03am	5:25pm	562	43	2.39E+07	8/14/02	286	16	9	1.38E-13	8/19/02	16	18	0	0.00E+00	0.00%
S1047	8/13/02	8:10am	5:25pm	555	30	1.65E+07	8/14/02	234	16	7.26667	1.61E-13	8/19/02	20	18	0.067	1.48E-15	37.03%
E1047	8/13/02	8:12am	5:30pm	558	40	2.21E+07	8/14/02	218	16	6.73333	1.12E-13	8/19/02	18	18	0	0.00E+00	0.00%
W1047	8/13/02	8:05am	5:27pm	562	50	2.78E+07	8/14/02	219	16	6.76667	8.91E-14	8/19/02	21	18	0.1	1.32E-15	32.92%
N1048	8/14/02	8:00am	5:20pm	560	46	2.55E+07	8/15/02	107	22	2.83333	4.07E-14	8/19/02	17	18	0	0.00E+00	0.00%
S1048	8/14/02	8:10am	5:28pm	558	47	2.60E+07	8/15/02	99	22	2.56667	3.62E-14	8/19/02	15	18	0	0.00E+00	0.00%
E1048	8/14/02	8:02am	5:25pm	563	50	2.79E+07	8/15/02	106	22	2.8	3.68E-14	8/19/02	18	18	0	0.00E+00	0.00%
W1048	8/14/02	8:00am	5:24pm	564	53	2.96E+07	8/15/02	84	22	2.06667	2.56E-14	8/19/02	17	18	0	0.00E+00	0.00%
N1049	8/15/02	8:00am	5:15pm	555	52	2.86E+07	8/16/02	237	20	7.23333	9.27E-14	8/20/02	18	19	0	0.00E+00	0.00%
S1049	8/15/02	8:03am	5:15pm	552	47	2.57E+07	8/16/02	99	20	2.63333	3.76E-14	8/20/02	16	19	0	0.00E+00	0.00%
E1049	8/15/02	8:02am	5:15pm	553	35	1.92E+07	8/16/02	194	20	5.8	1.11E-13	8/20/02	18	19	0	0.00E+00	0.00%
W1049	8/15/02	8:02am	5:15pm	553	52	2.85E+07	8/16/02	198	20	5.93333	7.63E-14	8/20/02	19	19	0	0.00E+00	0.00%
N1050	8/16/02	7:59am	4:07pm	488	45	2.18E+07	8/19/02	16	18	0	0.00E+00	8/21/02	17	18	0	0.00E+00	0.00%
S1050	8/16/02	8:00am	4:07pm	487	38	1.83E+07	8/19/02	21	18	0.1	2.00E-15	8/21/02	18	18	0	0.00E+00	0.00%
E1050	8/16/02	8:03am	4:05pm	482	38	1.82E+07	8/19/02	18	18	0	0.00E+00	8/21/02	20	18	0.067	1.35E-15	33.67%
W1050	8/16/02	8:00am	4:09pm	489	47	2.28E+07	8/19/02	20	18	0.06667	1.07E-15	8/21/02	17	18	0	0.00E+00	0.00%

## Area Air Monitoring Summary Sheet - Weekly Effluent Concentration Report 341 East Ohio Street Project- Chicago, IL

North Mor	itor	Week #12 8/19/02-8/2	23/02	(High Volume)
Date	Time Sampled (minutes)	Effluent Concentration In uCi/ml	Concentration x Sample Min / Day	Comments
8/19/02	457	0.00E+00	0.00E+00	
8/20/02	555	0.00E+00	0.00E+00	
8/21/02	550	5.90E-16	3.25E-13	j
8/22/02	232	1.27E-15	2.95E-13	short work day due to rain
8/23/02	495	0.00E+00	0.00E+00	
	2289	1.88E-15	6.19E-13	

 $C_{\text{evg}} = \sum_{i} \sum_{j} C_{i}$ 

 $\Sigma T_n$ 

Eq A.9 NUREG 1400

Time Weighted Weekly

Effluent Concentration (North) = Percentage of Release Limit of =

2.70E-16 uCi/ml

6.76%

4E-15uCi/ml

#### South Monttor

JUUUI INU				
	Time Sampled	Effluent Concentration	Concentration x	
Date	(minutes)	In_uCi/ml	Sample Min / Day	Comments
8/19/02	470	1.25E-14	5.88E-12	
8/20/02	550	0.00E+00	0.00E+00	
8/21/02	549	0.00E+00	0.00E+00	
8/22/02	228	0.00E+00	0.00E+00	short work day due to rain
8/23/02	473	0.00E+00	0.00E+00	
	2270	1 25E-14	5 88E-12	

 $C_{\text{evg}} = \Sigma T_{\text{e}i} C_i$ 

ΣΤ

Eq A.9 NUREG 1400

Time Weighted Weekly

Effluent Concentration (South) = Percentage of Release Limit of =

2.59E-15 uCI/ml

64,70%

4E-15uCi/ml

#### East Monitor

	Time Sampled	Effluent Concentration	Concentration x	
Date	(minutes)	in uCi/ml	Sample Min / Day	Comments
8/19/02	455	1.73E-15	7.87E-13	
8/20/02	549	0.00E+00	0.00E+00	}
8/21/02	552	9.71E-16	5.36E-13	
8/22/02	225	2.15E-15	4,84E-13	short work day due to rain
8/23/02	486	0.00E+00	0.00E+00	•
	2267	4.85E-15	1.81E-12	

 $C_{avg} = \sum T_{e,i} C_i$  $\Sigma T_{\mathbf{s}}$ 

Eq A.9 NUREG 1400

Time Weighted Weekly

Effluent Concentration (East) =

7.97E-16 uCi/ml

Percentage of Release Limit of =

19.93%

Time Sampled (minutes)		Effluent Concentration in uCi/ml	Concentration x Sample Min / Day	Comments		
8/19/02	464	0.00E+00	0.00E+00			
8/20/02	570	0.00E+00	0.00E+00			
8/21/02	557	0.00E+00	0.00E+00			
8/22/02	237	0.00E+00	0.00E+00	short work day due to rain		
8/23/02		0.00E+00	0.00E+00	-		
	2322	0.00E+00	0.00E+00			

 $C_{evg} = \frac{\sum T_{e+} C_{i}}{\sum T_{s}}$   $Eq A.9 \ NUREG \ 1400$ 

Time Weighted Weekly	
Effluent Concentration (West) =	0.00E+00 uÇi/mi
Percentage of Release Limit of =	0.00%

Week 12

August 19, 2002 - August 23, 2002

				totel	cubic	sample		day	after a	nalysis			fou	r day a	nalvsis		% of Limit
sample	date	start	stop	time	fV min	volume	date	gross	bkg	net	Concentration	date	gross	bkg	net	Concentration	
D	sampled	time	time	sampled	(CFM)	anelyzed	enalyzed	counts	counts	cpm	in uCl/ml	anatyzed	counts	counts	cpm		4.00E-15
V1051	8/19/02	8:43am	4:20pm	457	45	2.04E+07	8/20/02	88	19		4.14E-14	8/23/02	18		-	in uCl/mi	uCi/ml
31051		8:45am	4:35pm	470	42	1.96E+07	8/20/02	58	19	1.3	2.44E-14	8/23/02		18	0	0.00E+00	
E1051		8:50am	4:25pm	455	47	2.12E+07	8/20/02	74	19			Ť	20	18	0.067	1.25E-15	
N1051		8:46am	4:30pm	464	52	2.39E+07	8/20/02	98	19		3.17E-14	8/23/02	21	18	0.1	1.73E- <b>1</b> 5	
		8:06am	5:21pm	555	43	2.33E+07					4.04E-14	8/23/02	17	18	0	0.00E+00	0.00%
N1052			•				8/21/02	67	18		2.53E-14	8/26/02	19	19	0	0.00E+00	0.00%
S1052		8:10am	5:20pm	550	35	1.91E+07	8/21/02	44	18		1.67E-14	8/26/02	18	19	٥	0.00E+00	0.00%
E1052		8:07am	5:16pm	549	40	2.18E+07	8/21/02	52	18	1.13333	1.91E-14	8/26/02	17	19	0	0.00E+00	0.00%
<b>₩</b> 1052		8:05am	5:35pm	570	50	2.82E+07	8/21/02	50	18	1.08667	1.38E-14	8/26/02	18	19	0	0.00E+00	0.00%
N1053	8/21/02	8:00am	5:10pm	550	38	2.07E+07	8/22/02	387	20	12.2333	2.17E-13	8/26/02	20	19	0.033	5.90E-16	14.75%
S1053	8/21/02	8:01 <b>a</b> m	5:10pm	549	44	2.39E+07	8/22/02	304	20	9.46667	1.45E-13	8/26/02	17	19	0	0.00E+00	0.00%
E1053	8/21/02	8:03am	5:15pm	552	46	2.52E+07	8/22/02	274	20	8.46667	1.23E-13	8/26/02	21	19	0.067	9.71E-16	24.28%
W1053	8/21/02	7:58am	5:15pm	557	52	2.87E+07	8/22/02	344	20	10.8	1.38⊑-13	8/26/02	19	19	0.007	0.00E+00	
N1054	8/22/02	12:31pm	4:23pm	232	42	9.66E+06	8/23/02	77	18	1.96667	7.47E-14	8/27/02	18	17	0.033	1.27E-15	0.00%
S1054	8/22/02	12:37pm	4:25pm	228	43	9.72E+06	8/23/02	78	18	2	7.55E-14	8/27/02	17	17	0.003		31.64%
E1054	8/22/02	12:35pm	4:20pm	225	51	1.14E+07	8/23/02	72	18	1.8	5.80E-14	8/27/02	19	17	-	0.00E+00	0.00%
W1054		12:28pm	4:25pm	237	49	1.15E+07	8/23/02	74	18		5.95E-14	8/27/02	-		0.067	2.15E-15	53.74%
N1055		7:57am	4:12pm	495		2.35E+07	8/26/02	17	19	0	0.00E+00		15	17	0	0.00E+00	0.00%
S1055		8:07am	4:00pm	473	52	2.44E+07	8/26/02	18		=		8/28/02	16	19	D	0.00E+00	0.00%
		: 6.67am	4:05pm	486					19	0	0.00E+00	8/28/02	18	19	0	0.00E+00	0.00%
E1055						2.31E+07	8/26/02	22	19	0.1	1.59E-15	8/28/02	19	19	0	0.00E+00	0.00%
W1055	0/23/02	7:58am	4:10pm	494	41	2.01E+07	8/26/02	18	19	0	0.00E+00	8/28/02	17	19	0	0.00E+00	0.00%

# Area Air Monitoring Summary Sheet - Weekly Effluent Concentration Report 341 East Ohio Street Project- Chicago, IL

North Monitor		Week #13 8/26/02-8/	30/02	(High Volume)		
	Time Sampled	Effluent Concentration	Concentration x			
Date	(minutes)	in uCi/ml	Sample Min / Day	Comments		
8/26/02	545	0.00E+00	0.00E+00			
8/27/02	508	0.00E+00	0.00E+00			
8/28/02	530	0.00E+00	0.00E+00			
8/29/02	509	0.00E+00	0.00E+00			
8/30/02	467	0.00E+00	0.00E+00			
	2559	0.00F+00	0.005+00			

 $C_{avg} = \underbrace{\sum T_{e} C_{i}}_{\sum T_{e}}$ 

Time Welghted Weekly

Effluent Concentration (North) = 0.00E+00 uCi/ml

Eq A.9 NUREG 1400

Percentage of Release Limit of 

□ 0.00%

4E-15uCi/ml

### South Monitor

	Time Sampled	Effluent Concentration	Concentration x	
Date	(minutes)	in uCl/ml	Sample Min / Day	Comments
8/26/02	549	0.00E+00	0.00E+00	
8/27/02	515	4.70E-16	2.42E-13	
8/28/02	529	1.01E-15	5.34E-13	
8/29/02	500	2.00E-15	1.00E-12	
8/30/02	487	0.00E+00	0.00E+00	
	2580	3.48E-15	1.78E-12	

 $C_{\text{avg}} = \underline{\Sigma \, T_{\text{e.i.}} \, C_{\text{i.}}}$  $\Sigma \, T_{\text{e.i.}}$ 

Time Weighted Weekly

Effluent Concentration (South) = 6.94E-16 uCl/ml

Eq A.9 NUREG 1400

Percentage of Release Limit of = 17.35%

4E-15uCVml

#### East Monitor

Date		Effluent Concentration in uCi/ml	Concentration x Sample Min / Day	Comments
			<del></del>	Commons
8/28/02	553	1.08E-15	1	
8/27/02	505	0.00E+00	0.00E+00	
8/28/02	532	0.00E+00	0.00E+00	
8/29/02	498	0.00E+00	0.00E+00	
8/30/02	475	0.00E+00	0.00E+00	
	2583	1.085-15	5.88F-13	

 $C_{\text{evg}} = \frac{\sum T_{a_1} C_i}{\sum T_a}$ 

Time Weighted Weekly

Effluent Concentration (East) = 2.29E-16 uCi/ml

Percentage of Release Limit of = 5.72%

Eq A.9 NUREG 1400

Percentage of Release Limit of = 4E-15uCi/ml

Date	, ,	Effluent Concentration in uCi/ml	Concentration x Sample Min / Day	Comments
8/26/02	554	0.00E+00	0.00E+00	
8/27/02	512	6.34E-16	3.25E-13	
8/28/02	532	0.00E+00	0.00E+00	
8/29/02	497	0.00E+00	0.00E+00	
8/30/02	469	1.17E-15	5.49E-13	_
	2584	1.80F-15	8.73F-13	

 $C_{avg} = \underline{\Sigma T_{a,i} C_i}$   $\underline{\Sigma T_g}$ Eq A.9 NUREG 1400

Time Weighted Weekly	
Effluent Concentration (West) =	3.41E-16 uCi/ml
Percentage of Release Limit of ≠	8.52%

Week 13 August 26, 2002 - August 30, 2002

TTCCK				Magas			9401 00,										
Ţ				total	cnpjc	sample		day	after a	nalysis			for	ir day a	nalysis		% of Limit
Sample	date	start	stop	time	fV mɨn	volume	date	gross.	bkg	net	Concentration	date	gross	bkg	net	Concentration	4.00E-15
ID	sampled	time	time	sampled	(CFM)	analyzed	analyzed	counts	counts	cpm	in uCl/ml	analyzed	соиль	counts	cpm	in uCi/ml	uCi/ml
N1056	8/26/02	8.07am	5 ⁻ 12pm	545	51	2.75E+07	8/27/02	37	17	0.66667	8.87E-15	8/30/02	17	18	0	0.00E+00	0.00%
S1056	8/26/02		5:15pm	549	40	2.18E+07	8/27/02	23	17	02	3.37E-15	8/30/02	18	18	0	0 00E+00	0.00%
E1056	8/26/02	8:02am	5:15pm	553	42	2.30E+07	8/27/02	28	17	0 36667	5.84E-15	8/30/02	20	18	0.067	1.06E-15	26.55%
W1056	8/26/02	8:03am	5:17pm	554	41	2.25E+07	8/27/02	29	17	0.4	6.52E-15	8/30/02	16	18	0	0.00E+00	
N1057	8/27/02	8:00am	4:28pm	508	47	2.37E+07	8/28/02	81	19	2.06667	3.20E-14	9/3/02	19	19	0	0.00E+00	
S1057	8/27/02	8:01am	4:36pm	515	51	2.60E+07	8/28/02	76	19	1.9	2.68E-14	9/3/02	20	19	0.033	4.70E-18	
E1057	8/27/02	8:04am	4.29pm	505	48	2.40E+07	8/28/02	74	19	1.83333	2.80E-14	9/3/02	18	19	0	0.00E+00	
W1057	B/27/02	7 ⁻ 59am	4:31pm	512	38	1.93E+07	8/28/02	74	19	1.83333	3.49E-14	9/3/02	20	19	0 033	6.34E-18	15.85%
N1058	8/28/02	8:00am	4:50pm	530	48	2.52E+07	8/29/02	89	17	2.4	3.49E-14	9/3/02	18	19	0	0.00E+00	
S1058	8/28/02	8:06am	4·55pm	529	46	2.41E+07	8/29/02	70	17	1.76667	2 69E-14	9/3/02	21	19	0 067	1.01E-15	25.34%
E1058	8/28/02	8:00am	4.52pm	532	49	2.58E+07	8/29/02	54	17	1.23333	1.75E-14	9/3/02	17	19	0	0.00E+00	
W1058	8/28/02	8:04am	4:56pm	532	37	1.95E+07	8/29/02	63	17	1 53333	2.88E-14	9/3/02	17	19	0	0.00E+00	•
N1059	8/29/02	8:06am	4:35pm	509	53	2.67E+07	8/30/02	135	18	3.9	5.35E-14	9/3/02	18	19	0	0.00E+00	
S1059	8/29/02	8:10am	4:30pm	500	37	1.83E+07	8/30/02	243	18	7.5	1 50E-13	9/3/02	22	19	0.1	2.00E-15	50.00%
E1059	8/29/02	8:07am	4.25pm	498	50	2.47E+07	8/30/02	98	18	2.66667	3.96E-14	9/3/02	18	19	0		
W1059	8/29/02	8:11am	4:28pm	497	40	1.97E+07	8/30/02	107	18	2 96667	5.52E-14	9/3/02	19	19	0		
N1060	8/30/02	8.00am	3:47pm	467	43	1 99E+07	913102	18	19	0	0.00E+00	9/4/02	17	18	0	0.00E+00	
S1060	8/30/02	8:03am	3.50pm	467	40	1.85E+07	9/3/02	20	19	0.03333	6 60E-16	9/4/02	18	18	0		
E1060	8/30/02	8:00am	3:55pm	475	42	1.98E+07	9/3/02	16	19	0	0.00E+00	9/4/02	18	18	0		
W1060	8/30/02	8:05em	3:54pm	469	45	2.09E+07	9/3/02	19	19	0	0.00E+00	9/4/02	20	18	0 087		-

### Area Air Monitoring Summary Sheet - Weekly Effluent Concentration Report 341 East Ohio Street Project- Chicago, IL

North Mor		Week #14 8/2/02-9/6/		(High Volume)
Date	Time Sampled (minutes)	Effluent Concentration in uCi/ml	Sample Min / Day	Comments
9/2/02	0	0.00E+00	0.00E+00	
9/3/02	562	0.00E+00	0.00E+00	
9/4/02	532	5.15E-16	2.74E-13	
9/5/02	582	0.00E+00	0.00E+00	
9/8/02	454	0.00E+00	0.00E+00	
	2130	5.15E-16	2.74E-13	

 $C_{avg} = \Sigma T_{a,l} C_{l}$ 

 $\Sigma T_s$ 

Time Weighted Weekly Effluent Concentration (North) =

1.29E-16 uCi/ml

Ea A.9 NUREG 1400

Percentage of Release Limit of = 4E-15uCi/ml

3,22%

South Monitor

SOUDI MO	South Monitor										
	Time Sampled	Effluent Concentration	Concentration x								
Date	(minutes)	in uCi/ml	Sample Min / Day	Comments							
9/2/02	0	0.00E+00	0.00E+00								
9/3/02	555	1.55E-15	8.60E-13								
9/4/02	532	0.00E+00	0.00E+00								
9/5/02	568	9.44E-16	5.36E-13								
9/6/02	473	0.00E+00	0.00E+00								
	2128	2.49E-15	1.40E-12								

 $C_{mq} = \sum_{i} I_{ni} C_{i}$ 

 $\Sigma T_{\bullet}$ 

Effluent Concentration (South) =

6.66E-16 uCl/ml

Eq A.9 NUREG 1400

Percentage of Release Limit of =

Time Welghted Weekly

16.41%

4E-15uCi/ml

East Monitor

_45. 77.0777											
	Time Sampled	Effluent Concentration	Concentration x								
Date	(minutes)	in uCi/ml	Sample Min / Day	Comments							
9/2/02	0	0.00E+00	0.00E+00								
9/3/02	545	4.53E-16	2.47E-13								
9/4/02	527	9.96E-16	5.25E-13								
9/5/02	568	0.00E+00	0.00E+00								
9/6/02	464	0.00E+00	0.00E+00								
	2104	1.45E-15	7 72F-13								

 $C_{\text{evg}} = \sum_{i} T_{e,i} C_{i}$ 

 $\Sigma T_s$ 

Time Weighted Weekly

Effluent Concentration (East) =

3.67E-16 uCi/ml

Eq A.9 NUREG 1400

Percentage of Release Limit of =

9.17%

4E-15uÇi/mi

	Time Sampled	Effluent Concentration	Concentration x	
Date	(minutes)	in uCi/ml	Sample Min / Day	Comments
9/2/02	0	0.00E+00	0.00E+00	
9/3/02	547	0.00E+00	0.00E+00	
9/4/02	527	0.00E+00	0.00E+00	
9/5/02	572	0.00E+00	0.00E+00	
9/6/02	468	1.35E-15	6.32E-13	
	2114	1.35E-15	6.32E-13	

 $C_{\text{evg}} = \sum T_{e_1} C_i$  $\sum T_{a}$  $Eq A.9 \ NUREG \ 1400$ 

Time Weighted Weekly	
Effluent Concentration (West) =	2.99E-16 uCi/m
Percentage of Release Limit of =	7.47%

Week	14			Septe	mber 2	t, 2002 -	Septerm	ærь,	2002								
				total	cubic	mample		tlan	aiter a	nalysis			fot.	ir day e	naly <del>sis</del>		% of Limit
Sample	date	start	stop	time	ft/ min	<b>Yolume</b>	data	agong	bkg	net	Concentration	date	gross	Вkg	net	Concentration	4/00E-15
ID O	sampled	time	time	sampled	(CFM)	emulyzed	analyzedi	counts	counts	срт	in uCilmi	analyzed	counts	counta	срт	în uCi <b>hni</b>	ucimi
NO WORK ON 9/2/02 - Labor Day Holiday																	
N1061	9/3/02	8:05am	5:27pm	552	41	2.28E+07	9/4/02	58	18	1.33933	2.14E-14	9/9/02	15	16	0	0.00E+00	<b>200.0</b>
S1061	9/3/02	8:05am	5:20pm	555	43	2.37E+07	9/4/02	78	18	2	3.10E-14	9/9/02	19	16	0.1	1.55E-15	38.76%
E1061	9/3/02	8:05em	5:10pm	545	50	2.70E+07	8/4/02	71	18	1.76867	2.40E-14	9/9/02	17	16	0.033	4.53E-16	11.31%
W1061	9/3/02	8:08am	5:15pm	547	48	2.60E+07	9/4/02	49	18	1.03333	1.46E-14	9/9/02	16	18	40	0.00E+00	0.00%
N1062	9/4/02	8:03am	4:5 <b>5</b> pm	532	45	2.37E+07	9/5/02	97	119	2.6	4.02E-14	9/9/02	17	16	0.033	5.15E-16	12.88%
S1062	9/4/02	8:13am	5:0 <b>5</b> pm	532	37	1.95E+07	9/5/02	84	19	2.16667	4.07E-14	9/9/02	16	16	O	0.00E+00	0.00%
E1062	9/4/02	8:09am	4:56pm	527	47	2.45E+07	9/5/02	61	19	1.4	2.09E-14	9/9/02	18	16	0.067	9.96E-16	24.90%
W1062	9/4/02	8:13pm	5:00pm	527	45	2.35E+07	9/5/02	107	19	2.93333	4.58E-14	9/9/02	16	16	ď	0.00E+00	0.00%
N1083	9/5/02	8:01am	5: <b>43pm</b>	582	50	2.88E+07	9/8/02	. 83	17	2.2	2.80E-14	9/10/02	17	17	ď	0.00€+00	0.00%
51063	9/5/02	8:07am	5:35pm	568	46	2.59E+07	9/6/02	79	1 17	2,06887	2.93E-14	9/10/02	19	17	0.067	9.44E-18	23.60%
E1063	9/5/02	8:03am	5: <b>31pm</b>	568	47	2:65E+07	9/8/02	67	17	1.66667	2.31E-14	9/10/02	17	17	Ю	0.00E+00	0.00%
W1083	9/5/02	8:05am	5:37pm	572	38	2.16E+07	9/6/02	92	17	2.5	4.26E-14	9/10/02	16	17	O.	0.00E+00	0.00%
N1064	9/6/02	8:21am	3:55pm	454	41	1.84E+07	9/9/02	24	16	0.26567	5.30E-15	9/11/02	17	17	0	0.03É+00	0.00%
51064	9/6/02	8:09am	4:02pm	473	37	1.73E+07	9/9/02	30	18	0.46667	9.87E-15	9/11/02	16	17	O,	0.00E+00	0.00%
E1064	9/8/02	8:16am	4:00pm	464	43	1.98E+07	9/9/02	18	16	0.1	1.85E-15	9/11/02	17	17	0	0.00E+00	0.00%
W1064	9/6/02	8:09am	3:57pm	468	39	1.81E+07	9/9/02	28	18	0.4	8.11E-15	9/11/02	19	17	0.067	1.35E-15	33.78%

### Area Air Monitoring Summary Sheet - Weekly Effluent Concentration Report

341 East Ohio Street Project- Chicago, IL

North Mon	itor	Week #15 9/9/02-9/13	3/02	(High Volume)
	Time Sampled	Effluent Concentration	Concentration x	
Date	(minutes)_	in uCi/ml	Sample Min / Day	Comments
9/9/02	507	1.11E-15	5.63E-13	
9/10/02	443	1.11E-15	4.92E-13	
9/11/02	505	0.00E+00	0.00E+00	
9/12/02	553	0.00E+00	0.00E+00	
9/13/02	520	0.00E+00	0.00E+00	
	2528	2.22E-15	1.05E-12	

 $C_{\text{avg}} = \Sigma T_{s,i} C_{i}$ 

Time Weighted Weekly

Effluent Concentration (North) =

4.17E-16 uCi/ml

Eq A.9 NUREG 1400

Percentage of Release Limit of = 4E-15uCi/ml

10.43%

South Monitor

	Time Sampled	Effluent Concentration	Concentration x	
Date	(minutes)	(minutes) in uCi/ml		Comments
9/9/02	507	0.00E+00	0.00E+00	
9/10/02	427	0.00E+00	0.00E+00	
9/11/02	499	0.00E+00	0.00E+00	
9/12/02	552	0.00E+00	0.00E+00	
9/13/02	515	0.00E+00	0.00E+00	

0.00E+00 2500 0.00E+00

 $C_{\text{avg}} = \Sigma T_{\text{s,i}} C_{\text{i}}$ 

Eq A.9 NUREG 1400

 $\Sigma T_s$ 

Time Weighted Weekly

Effluent Concentration (South) =

0.00E+00 uCi/ml

Percentage of Release Limit of = 0.00% 4E-15uCi/ml

East Monitor

-	Time Sampled	Effluent Concentration	Concentration x	
Date	(minutes)	in uCi/ml	Sample Min / Day	Comments
9/9/02	512	0.00E+00	0.00E+00	
9/10/02	457	1.38E-15	6.31E-13	
9/11/02	491	5.02E-16	2.46E-13	
9/12/02	554	1.19E-15	6.59E-13	
9/13/02	516	0.00E+00	0.00E+00	
	2530	3 07F-15	1 54E-12	

 $C_{\text{avg}} = \sum T_{s,i} C_i$ 

 $\Sigma T_s$ 

Time Weighted Weekly

Effluent Concentration (East) =

6.07E-16 uCi/ml

Eq A.9 NUREG 1400

Percentage of Release Limit of =

15.18%

	Time Sampled	Effluent Concentration	Concentration x	
Date	(minutes)	in uCi/ml	Sample Min / Day	Comments
9/9/02	513	0.00E+00	0.00E+00	
9/10/02	455	0.00E+00	0.00E+00	
9/11/02	494	0.00E+00	0.00E+00	
9/12/02	549	8.64E-16	4.74E-13	
9/13/02	516	0.00E+00	0.00E+00	
	2527	8.64E-16	4.74E-13	

 $C_{\text{avg}} = \underline{\sum T_{s,i} C_i}$   $\underline{\sum T_s}$ Eq A.9 NUREG 1400

Time Weighted Weekly	
Effluent Concentration (West) =	1.88E-16 uCi/ml
Percentage of Release Limit of =	4.69%

Week 15 September 9, 2002 -

**September 9, 2002 - September 13, 2002** 

				total	cubic	sample		day	after a	nalysis			fot	ır day a	nalysis		% of Limit
Sample	date	start	stop	time	ft/ min	volume	date	gross	bkg	net	Concentration	date	gross	bkg	net	Concentration	4.00E-15
ID	sampled	time	time	sampled	(CFM)	analyzed	analyzed	counts	counts	cpm	in uCi/ml	analyzed	counts	counts	cpm	in uCi/mi	uCl/ml
N1065	9/9/02	7:58am	4:25pm	507	44	2.21E+07	9/10/02	152	17	4.5	7.46E-14	9/13/02	19	17	0.067	1.11E-15	27.64%
S1065	9/9/02	8:08am	4:35pm	507	40	2.01E+07	9/10/02	126	17	3.63333	6.63E-14	9/13/02	17	17	0	0.00E+00	0.00%
E1065	9/9/02	8:00am	4:32pm	512	47	2.38E+07	9/10/02	135	17	3.93333	6.05E-14	9/13/02	15	17	0	0.00E+00	0.00%
W1065	9/9/02	8:04am	4:37pm	513	36	1.83E+07	9/10/02	125	17	3.6	7.21E-14	9/13/02	17	17	0	0.00E+00	0.00%
N1066	9/10/02	8:12am	3:35pm	443	50	2.20E+07	9/11/02	188	17	5.7	9.52E-14	9/16/02	20	18	0.067	1.11E-15	27.84%
S1066	9/10/02	8:35am	3:42pm	427	41	1.74E+07	9/11/02	199	17	6.06667	1.28E-13	9/16/02	18	18	0	0.00E+00	0.00%
E1066	9/10/02	8:03am	3:40pm	457	39	1.77E+07	9/11/02	267	17	8.33333	1.73E-13	9/16/02	20	18	0.067	1.38E-15	34.60%
W1066	9/10/02	8:10am	3:45pm	455	46	2.07E+07	9/11/02	165	17	4.93333	8.72E-14	9/16/02	17	18	0	0.00E+00	0.00%
N1067	9/11/02	8:00am	4:25pm	505	50	2.50E+07	9/12/02	70	19	1.7	2.49E-14	9/16/02	16	18	0	0.00E+00	0.00%
S1067	9/11/02	8:00am	4:19pm	499	48	2.37E+07	9/12/02	64	19	1.5	2.32E-14	9/16/02	15	18	0	0.00E+00	0.00%
E1067	9/11/02	8:10am	4:21pm	491	50	2.43E+07	9/12/02	100	19	2.7	4.07E-14	9/16/02	19	18	0.033	5.02E-16	12.56%
W1067	9/11/02	8:03am	4:17pm	494	48	2.35E+07	9/12/02	65	19	1.53333	2.39E-14	9/16/02	17	18	0	0.00E+00	0.00%
N1068	9/12/02	8:04am	5:17pm	553	35	1.92E+07	9/13/02	70	17	1.76667	3.38E-14	9/17/02	15	16	0	0.00E+00	0.00%
S1068	9/12/02	8:09am	5:21pm	552	50	2.74E+07	9/13/02	59	17	1.4	1.88E-14	9/17/02	16	16	0	0.00E+00	0.00%
E1068	9/12/02	8:06am	5:20pm	554	56	3.07E+07	9/13/02	67	17	1.66667	1.99E-14	9/17/02	19	16	0.1	1.19E-15	29.81%
W1068	9/12/02	8:11am	5:20pm	549	52	2.83E+07	9/13/02	57	17	1.33333	1.73E-14	9/17/02	18	16	0.067	8.64E-16	21.60%
N1069	9/13/02	8:03am	4:43pm	520	39	2.01E+07	9/16/02	21	18	0.1	1.82E-15	9/18/02	16	18	0	0.00E+00	0.00%
S1069	9/13/02	8:07am	4:42pm	515	40	2.04E+07	9/16/02	22	18	0.13333	2.39E-15	9/18/02	18	18	0	0.00E+00	0.00%
E1069	9/13/02	8:05am	4:41pm	516	43	2.20E+07	9/16/02	16	18	0	0.00E+00	9/18/02	18	18	0	0.00E+00	0.00%
W1069	9/13/02	8:08am	4:44pm	516	42	2.15E+07	9/16/02	18	18	0	0.00E+00	9/18/02	15	18	0	0.00E+00	0.00%

## Area Air Monitoring Summary Sheet - Weekly Effluent Concentration Report

341 East Ohio Street Project- Chicago, IL

North Moi	nitor	Week #16 9/16/02-9/2	20/02	(High Volume)
	Time Sampled	Effluent Concentration	Concentration x	
Date	(minutes)	in uCi/ml	Sample Min / Day	Comments
9/16/02	562	6.65E-16	3.74E-13	
9/17/02	577	0.00E+00	0.00E+00	1
9/18/02	576	0.00E+00	0.00E+00	
9/19/02	563	1.04E-15	5.86E-13	
9/20/02	221	1.24E-15	2.74E-13	Rain Delayed
	2499	2.95E-15	1.23E-12	

 $C_{avg} = \underline{\sum T_{s,i} C_i}$ 

 $\Sigma T_s$ 

Time Weighted Weekly

Effluent Concentration (North) =

4.94E-16 uCi/ml

Eq A.9 NUREG 1400

Percentage of Release Limit of =

12.34%

4E-15uCi/ml

### South Monitor

	Time Sampled	Effluent Concentration	Concentration x	
Date	(minutes)	in uCi/ml	Sample Min / Day	Comments
9/16/02	555	0.00E+00	0.00E+00	
9/17/02	529	0.00E+00	0.00E+00	
9/18/02	580	4.09E-16	2.37E-13	
9/19/02	573	1.54E-15	8.82E-13	
9/20/02	210	0.00E+00	0.00E+00	Rain Delayed
	2447	1.95E-15	1.12E-12	

 $C_{avg} = \underline{\sum T_{s,i} C_i}$ 

 $\Sigma T_s$ 

Eq A.9 NUREG 1400

Time Weighted Weekly

Effluent Concentration (South) = Percentage of Release Limit of = 4.58E-16 uCi/ml

11.44%

4E-15uCi/ml

### East Monitor

	Time Sampled	Effluent Concentration	Concentration x	
Date	(minutes)	in uCi/ml	Sample Min / Day	Comments
9/16/02	564	9.11E-16	5.14E-13	
9/17/02	568	4.82E-16	2.74E-13	
9/18/02	576	0.00E+00	0.00E+00	
9/19/02	561	0.00E+00	0.00E+00	
9/20/02	218	0.00E+00	0.00E+00	Rain Delayed
	2487	1.39E-15	7.88E-13	

 $C_{\text{avg}} = \underline{\Sigma \ T_{\text{s,i}} \ C_{\text{i}}}$ 

 $\Sigma T_s$ 

Time Weighted Weekly

Effluent Concentration (East) =

3.17E-16 uCi/ml

Eq A.9 NUREG 1400

Percentage of Release Limit of =

7.92%

Date	•	Effluent Concentration in uCi/ml	Concentration x Sample Min / Day	Comments
			<del></del>	
9/16/02	563	0.00E+00	0.00E+00	
9/17/02	529	1.26E-15	6.67E-13	
9/18/02	573	0.00E+00	0.00E+00	
9/19/02	590	4.98E-16	2.94E-13	
9/20/02	212	0.00E+00	0.00E+00	Rain Delayed
	2467	1.76E-15	9.60E-13	

$C_{avg} = \Sigma $	$C_i$
	$\Sigma \; T_s$
E~ A O AU ID	EC 1400

$C_{avg} = \sum T_{s,i} C_i$	Time Weighted Weekly	
$\Sigma T_s$	Effluent Concentration (West) =	3.89E-16 uCi/ml
Eq A.9 NUREG 1400	Percentage of Release Limit of =	9.73%

Week 16

September 16, 2002 - September 20, 2002

TTCCK	<u> </u>			<u> </u>		IO, ZOOZ	Ochton	1001 -	, 20	<u> </u>							
		-		total	cubic	sample		day	after a	nalysis			fou	ır day a	nalysis		% of Limit
Sample	date	start	stop	time	ft/ min	volume	date	gross	bkg	net	Concentration	date	gross	bkg	net	Concentration	4.00E-15
ID	sampled	time	time	sampled	(CFM)	analyzed	analyzed	counts	counts	cpm	in uCi/ml	analyzed	counts	counts	cpm	in uCi/ml	uCi/ml
N1070	9/16/02	8:13am	5:35pm	562	33	1.84E+07	9/17/02	58	16	1.4	2.79E-14	9/20/02	21	20	0.033	6.65E-16	16.62%
S1070	9/16/02	8:15am	5:30pm	555	42	2.31E+07	9/17/02	38	16	0.73333	1.16E-14	9/20/02	16	20	0	0.00E+00	0.00%
E1070	9/16/02	8:07am	5:31pm	564	48	2.68E+07	9/17/02	55	16	1.3	1.78E-14	9/20/02	22	20	0.067	9.11E-16	22.78%
W1070	9/16/02	8:11am	5:34pm	563	42	2.34E+07	9/17/02	56	16	1.33333	2.09E-14	9/20/02	20	20	0	0.00E+00	0.00%
N1071	9/17/02	8:13am	5:50pm	577	37	2.12E+07	9/18/02	191	18	5.76667	9.99E-14	9/23/02	16	18	0	0.00E+00	0.00%
S1071	9/17/02	8:11am	5:00pm	529	40	2.10E+07	9/18/02	206	18	6.26667	1.10E-13	9/23/02	18	18	0	0.00E+00	0.00%
E1071	9/17/02	8:07am	5:35pm	568	45	2.53E+07	9/18/02	184	18	5.53333	8.01E-14	9/23/02	19	18	0.033	4.82E-16	12.06%
W1071	9/17/02	8:13am	5:02pm	529	37	1.94E+07	9/18/02	181	18	5.43333	1.03E-13	9/23/02	20	18	0.067	1.26E-15	31.50%
N1072	9/18/02	8:15am	5:51pm	576	37	2.11E+07	9/19/02	235	17	7.26667	1.26E-13	9/23/02	17	18	0	0.00E+00	0.00%
S1072	9/18/02	8:05am	5:45pm	580	52	2.99E+07	9/19/02	182	17	5,5	6.75E-14	9/23/02	19	18	0.033	4.09E-16	10.22%
E1072	9/18/02	8:14am	5:50pm	576	46	2.63E+07	9/19/02	233	17	7.2	1.01E-13	9/23/02	15	18	0	0.00E+00	0.00%
W1072	9/18/02	8:07am	5:40pm	573	51	2.90E+07	9/19/02	130	17	3.76667	4.77E-14	9/23/02	18	18	0	0.00E+00	0.00%
N1073	9/19/02	8:22am	5:45pm	563	42	2.34E+07	9/20/02	157	20	4.56667	7.15E-14	9/24/02	18	16	0.067	1.04E-15	26.08%
S1073	9/19/02	8:10am	5:43pm	573	42	2.39E+07	9/20/02	186	20	5.53333	8.51E-14	9/24/02	19	16	0.1	1.54E-15	38.43%
E1073	9/19/02	8:20am	5:41pm	561	39	2.17E+07	9/20/02	183	20	5.43333	9.19E-14	9/24/02	14	16	0	0.00E+00	0.00%
W1073	9/19/02	8:15am	6:05pm	590	42	2.46E+07	9/20/02	134	20	3.8	5.67E-14	9/24/02	17	16	0.033	4.98E-16	12.44%
N1074	9/20/02	8:01am	2:12pm	221	45	9.86E+06	9/23/02	24	18	0.2	7.44E-15	9/25/02	18	17	0.033	1.24E-15	31.00%
S1074	9/20/02	8:05am	2:05pm	210	56	1.17E+07	9/23/02	21	18	0.1	3.15E-15	9/25/02	15	17	0	0.00E+00	0.00%
E1074	9/20/02	8:02am	2:10pm	218	52	1.12E+07	9/23/02	18	18	0	0.00E+00	9/25/02	17	17	0	0.00E+00	0.00%
W1074	9/20/02	7:58am	2:00pm	212	57	1.20E+07	9/23/02	18	18	0	0.00E+00	9/25/02	17	17	0	0.00E+00	0.00%

### Area Air Monitoring Summary Sheet - Weekly Effluent Concentration Report

341 East Ohio Street Project- Chicago, IL

North Monitor		Week #17 9/23/02-9/2	27/02	(High Volume)
	Time Sampled	Effluent Concentration	Concentration x	
Date	(minutes)	in uCi/ml	Sample Min / Day	Comments
9/23/02	568	0.00E+00	0.00E+00	
9/24/02	499	5.04E-16	2.51E-13	
9/25/02	495	0.00E+00	0.00E+00	
9/26/02	517	0.00E+00	0.00E+00	
9/27/02	475	0.00E+00	0.00E+00	
	2554	5.04E-16	2.51E-13	

 $C_{avg} = \sum T_{s,l} C_i$ 

 $\Sigma T_s$ 

Time Weighted Weekly

Effluent Concentration (North) =

9.85E-17 uCi/ml

Eq A.9 NUREG 1400

Percentage of Release Limit of =

2.46%

4E-15uCi/ml

### South Monitor

	Time Sampled	Effluent Concentration	Concentration x	
Date	(minutes)	in uCi/ml	Sample Min / Day	Comments
9/23/02	591	9.71E-16	5.74E-13	
9/24/02	488	9.91E-16	4.84E-13	
9/25/02	491	4.19E-16	2.06E-13	
9/26/02	495	6.23E-16	3.08E-13	
9/27/02	492	0.00E+00	0.00E+00	
	2557	3.00E-15	1.57E-12	

 $C_{avg} = \underline{\sum T_{s,i} C_i}$ 

 $\Sigma T_s$ 

Time Weighted Weekly

Effluent Concentration (South) =

6.15E-16 uCi/ml

Eq A.9 NUREG 1400

Percentage of Release Limit of = 4E-15uCi/ml

15.37%

East Monitor

Lust Mon	101			
	Time Sampled	Effluent Concentration	Concentration x	
Date	(minutes)	in uCi/ml	Sample Min / Day	Comments
9/23/02	568	0.00E+00	0.00E+00	
9/24/02	482	0.00E+00	0.00E+00	
9/25/02	497	0.00E+00	0.00E+00	
9/26/02	491	1.57E-15	7.71E-13	
9/27/02	470	6.91E-16	3.25E-13	
	2508	2.26E-15	1.10E-12	

 $C_{\text{avg}} = \sum T_{\text{s,i}} C_{\text{i}}$ 

 $\Sigma \; T_{\text{s}}$ 

Eq A.9 NUREG 1400

Time Weighted Weekly

Effluent Concentration (East) =

4.37E-16 uCi/ml

Percentage of Release Limit of =

10.92%

44:4

	Time Sampled	Effluent Concentration	Concentration x	
Date	(minutes)	in uCi/ml	Sample Min / Day	Comments
9/23/02	589	0.00E+00	0.00E+00	
9/24/02	503	0.00E+00	0.00E+00	
9/25/02	485	1.86E-15	9.02E-13	
9/26/02	511	0.00E+00	0.00E+00	
9/27/02	485	1.59E-15	7.71E-13	
	2573	3.45E-15	1.67E-12	

$C_{avg} = \sum T_{s,i} C_i$	Time Weighted Weekly	
$\Sigma T_s$	Effluent Concentration (West) =	6.50E-16 uCi/ml
Eq A.9 NUREG 1400	Percentage of Release Limit of =	16.26%

Area Air Monitoring Summary Sheet - Staplex High Volume Pumps (Daily Analysis) 341 East Ohio Street Project - Chicago, IL

Week 17 September 23, 2002 - September 27, 2002

				total	cubic	sample		day	after a	nalysis			fou	ır day aı	nalysis		% of Limit
Sample	date	start	stop	time	ft/ min	volume	date	gross	bkg	net	Concentration	date	gross	bkg	net	Concentration	4.00E-15
ID	sampled	time	time	sampled	(CFM)	analyzed	analyzed	counts	counts	cpm	in uCi/mi	analyzed	counts	counts	cpm	in uCi/ml	uCi/ml
N1075	9/23/02	8:20am	5:48pm	568	52	2.93E+07	9/24/02	67	16	1.7	2.13E-14	9/27/02	17	17	0	0.00E+00	0.00%
S1075	9/23/02	7:58am	5:49pm	591	43	2.52E+07	9/24/02	76	16	2	2.91E-14	9/27/02	19	17	0.067	9.71E-16	24.26%
E1075	9/23/02	8:17am	5:45pm	568	46	2.59E+07	9/24/02	96	16	2.66667	3.78E-14	9/27/02	17	17	0	0.00E+00	0.00%
W1075	9/23/02	7:58am	5:47pm	589	41	2.39E+07	9/24/02	90	16	2.46667	3.78E-14	9/27/02	16	17	0	0.00E+00	0.00%
N1076	9/24/02	8:00am	4:19pm	499	49	2.42E+07	9/25/02	39	17	0.73333	1.11E-14	9/30/02	20	19	0.033	5.04E-16	12.61%
S1076	9/24/02	8:07am	4:15pm	488	51	2.47E+07	9/25/02	27	17	0.33333	4.96E-15	9/30/02	21	19	0.067	9.91E-16	24.78%
E1076	9/24/02	8:10am	4:12pm	482	40	1.91E+07	9/25/02	30	17	0.43333	8.32E-15	9/30/02	18	19	0	0.00E+00	0.00%
W1076	9/24/02	8:07am	4:30pm	503	51	2.54E+07	9/25/02	33	17	0.53333	7.69E-15	9/30/02	15	19	0	0.00E+00	0.00%
N1077	9/25/02	8:00am	4:15pm	495	42	2.06E+07	9/26/02	125	16	3.63333	6.47E-14	9/30/02	19	19	0	0.00E+00	0.00%
S1077	9/25/02	8:04am	4:15pm	491	60	2.92E+07	9/26/02	84	16	2.26667	2.85E-14	9/30/02	20	19	0.033	4.19E-16	10.47%
E1077	9/25/02	8:04am	4:21pm	497	50	2.46E+07	9/26/02	73	16	1.9	2.83E-14	9/30/02	17	19	0	0.00E+00	0.00%
W1077	9/25/02	8:10am	4:15pm	485	41	1.97E+07	9/26/02	79	16	2.1	3.91E-14	9/30/02	22	19	0.1	1.86E-15	46.51%
N1078	9/26/02	8:00am	4:37pm	517	52	2.66E+07	9/27/02	255	17	7.93333	1.09E-13	10/1/02	17	18	0	0.00E+00	0.00%
S1078	9/26/02	8:02am	4:17pm	495	40	1.96E+07	9/27/02	234	17	7.23333	1.35E-13	10/1/02	19	18	0.033	6.23E-16	15.57%
E1078	9/26/02	8:06am	4:17pm	491	48	2.34E+07	9/27/02	250	17	7.76667	1.22E-13	10/1/02	21	18	0.1	1.57E-15	39.25%
W1078	9/26/02	8:04am	4:35pm	511	42	2.13E+07	9/27/02	223	17	6.86667	1.18E-13	10/1/02	17	18	0	0.00E+00	0.00%
N1079	9/27/02	8:18am	4:13pm	475	57	2.68E+07	9/30/02	20	19	0.03333	4.55E-16	10/2/02	16	16	0	0.00E+00	0.00%
S1079	9/27/02	8:00am	4:12pm	492	57	2.78E+07	9/30/02	19	19	0	0.00E+00	10/2/02	15	16	0	0.00E+00	0.00%
E1079	9/27/02	8:20am	4:10pm	470	38	1.77E+07	9/30/02	31	19	0.4	8.29E-15	10/2/02	17	16	0.033	6.91E-16	17.26%
W1079	9/27/02	8:10am	4:15pm	485	48	2.31E+07	9/30/02	21	19	0.06667	1.06E-15	10/2/02	19	16	0.1	1.59E-15	39.73%

### Area Air Monitoring Summary Sheet - Weekly Effluent Concentration Report

341 East Ohio Street Project- Chicago, IL

North Moi	nitor	Week #18 9/30/02 - 1	0/4/02	(High Volume)
	Time Sampled	Effluent Concentration	Concentration x	
Date	(minutes)	in uCi/ml	Sample Min / Day	Comments
9/30/02	490	0.00E+00	0.00E+00	
10/1/02	475	1.13E-15	5.37E-13	Air Monitoring Completed
10/2/02	) o	0.00E+00	0.00E+00	
10/3/02	0	0.00E+00	0.00E+00	
10/4/02	0	0.00E+00	0.00E+00	
	965	1.13E-15	5.37E-13	

 $C_{\text{avg}} = \underline{\sum T_{s,i} C_i}$ 

 $\Sigma T_s$ 

Time Weighted Weekly

Effluent Concentration (North) = 5.56E-16 uCi/ml

Eq A.9 NUREG 1400

Percentage of Release Limit of =

13.91%

4E-15uCi/ml

### South Monitor

	Time Sampled	Effluent Concentration	Concentration x	
Date	(minutes)	in uCi/ml	Sample Min / Day	Comments
9/30/02	490	0.00E+00	0.00E+00	
10/1/02	478	0.00E+00	0.00E+00	Air Monitoring Completed
10/2/02	0	0.00E+00	0.00E+00	
10/3/02	o	0.00E+00	0.00E+00	
10/4/02	0	0.00E+00	0.00E+00	
	968	0.00E+00	0.00E+00	

 $C_{\text{avg}} = \underline{\sum T_{s,i} C_i}$ 

 $\Sigma T_s$ 

Time Weighted Weekly

Effluent Concentration (South) =

0.00E+00 uCi/ml

Eq A.9 NUREG 1400

Percentage of Release Limit of =

0.00%

4E-15uCi/ml

#### East Monitor

	Time Sampled	Effluent Concentration	Concentration x	
Date _	(minutes)	in uCi/ml	Sample Min / Day	Comments
9/30/02	473	0.00E+00	0.00E+00	
10/1/02	474	0.00E+00	0.00E+00	Air Monitoring Completed
10/2/02	0	0.00E+00	0.00E+00	
10/3/02	0	0.00E+00	0.00E+00	
10/4/02	0	0.00E+00	0.00E+00	
	947	0.00E+00	0.00E+00	

 $C_{\text{evg}} = \underline{\sum T_{s,i} C_i}$ 

 $\Sigma T_s$ 

Eq A.9 NUREG 1400

Time Weighted Weekly

Effluent Concentration (East) = 0.00E+00 uCi/ml

Percentage of Release Limit of = 0.00%

Percentage of Release Limit of = 4E-15uCi/ml

### **West Monitor**

	Time Sampled	Effluent Concentration	Concentration x	
Date	(minutes)	in uCi/ml	Sample Min / Day	Comments
9/30/02	491	6.28E-16	3.08E-13	
10/1/02	473	0.00E+00	0.00E+00	Air Monitoring Completed
10/2/02	0	0.00E+00	0.00E+00	
10/3/02	0	0.00E+00	0.00E+00	
10/4/02	0	0.00E+00	0.00E+00	İ
	964	6 28F-16	3 08F-13	

$C_{avg} = \underline{\sum T_{s,i} C_i}$	Time Weighted Weekly	
$\Sigma T_s$	Effluent Concentration (West) =	3.20E-16 uCi/ml
Eq A.9 NUREG 1400	Percentage of Release Limit of =	8.00%

Area Air Monitoring Summary Sheet - Staplex High Volume Pumps (Daily Analysis) 341 East Ohio Street Project - Chicago, IL

Week 18

September 30, 2002 - October 4, 2002

				total	cubic	sample		day	after a	nalysis			fou	ır day a	nalysis		% of Limit
Sample	date	start	stop	time	ft/ min	volume	date	gross	bkg	net	Concentration	date	gross	bkg	net	Concentration	4.00E-15
ID	sampled	time	time	sampled	(CFM)	analyzed	analyzed	counts	counts	cpm	in uCi/ml	analyzed	counts	counts	cpm	in uCi/ml	uCi/mi
N1080	9/30/02	7:59am	4:09pm	490	55	2.67E+07	10/1/02	187	18	5.63333	7.73E-14	10/7/02	16	17	0	0.00E+00	0.00%
S1080	9/30/02	8:00am	4:10pm	490	50	2.43E+07	10/1/02	190	18	5.73333	8.66E-14	10/7/02	17	17	0	0.00E+00	0.00%
E1080	9/30/02	8:16am	4:09pm	473	52	2.44E+07	10/1/02	161	18	4.76667	7.17E-14	10/7/02	16	17	0	0.00E+00	0.00%
W1080	9/30/02	8:01am	4:12pm	491	40	1.95E+07	10/1/02	94	18	2.53333	4.77E-14	10/7/02	18	17	0.033	6.28E-16	15.70%
N1081	10/1/02	8:02am	3:57pm	475	46	2.17E+07	10/2/02	381	16	12.1667	2.06E-13	10/7/02	19	17	0.067	1.13E-15	28.22%
S1081	10/1/02	8:01am	3:59pm	478	48	2.27E+07	10/2/02	362	16	11.5333	1.86E-13	10/7/02	16	17	0	0.00E+00	0.00%
E1081	10/1/02	8:04am	3:58pm	474	40	1.88E+07	10/2/02	328	16	10.4	2.03E-13	10/7/02	17	17	0	0.00E+00	0.00%
W1081	10/1/02	8:04am	3:57pm	473	41	1.92E+07	10/2/02	357	16	11.3667	2.17E-13	10/7/02	17	17	0	0.00E+00	0.00%



### Personal Air Monitoring

# Personal Air Monitoring Summary Sheet (PAM's -Daily Analysis) 341 East Ohio Street Project - Chicago, IL *** All PAM's with elevated counts on day after analysis are recounted after 4 days (see attached)

		1		Flow	Total	Total		Gross	Bkg		Sample
Date		l		Rate	Time	Sample	Analysis	Counts	Counts	Net	Concentration
Collected	Name	Sample ID	PAM#	(lpm)	Sampled	Volume (ml)	Date	(30 min)	(30 min)	CPM	(uCi/m1)
6/6/02 F	R. Petty	PAM1001	002-574	2.5	200	500000	6/7/02	15	16	0.00	0.00E+00
6/6/02 (	Glenn Huber	PAM1002	002-766	2.5	440	1100000	8/7/02	16	16	0,00	0.00E+00
6/7/02 F	R. Petty	PAM1003	002-574	2.5	530	1325000	6/10/02	19	16	0.10	1.94E-14
6/7/02 L	Leonard Smith	PAM1004	002-768	2.5	535	1337500	6/10/02	17	16	0.03	6.40E-15
6/10/02 L	Leonard Smith	PAM1005	002-766	2.5	540	1350000	6/11/02	33	17	0.53	1.01E-13
6/1 <b>0/</b> 02 F	R. Petty/W.C.	PAM1006	002-574	2.5	550	1375000	6/11/02	39	17	0.73	1.37E-13
6/10/02 5	Justin Hubbert	PAM1007	002-875	2.5	410	1025000	6/11/02	20	17	0.10	2.50E-14
6/11/02 i	Leonard Smith	PAM1008	002-675	2.5	405	1012500	6/12/02	17	19	0.00	0.00E+00
6/11/02 F	R. Petty/W.C.	PAM1009	002-574	2.5	416	1040000	6/12/02	16	19	0.00	0.00E+00
6/12/02 (	Glenn Huber	PAM1010	002-766	2.5	600	1500000	6/13/02	23	18	0.17	2.85E-14
6/12/02 F	R. Petty/ W.C.	PAM1011	002-574	2.5	587	1467500	6/13/02	22	18	0.13	2.33E-14
8/13/02 [	Leonard Smith	PAM1012	002-875	2.5	570	1425000	6/14/02	16	17	0.00	0.00E+00
6/13/02 F	R. Petty/W.C.	PAM1013	002-574	2.5	570	1425000	6/14/02	15	17	0.00	0.00E+00
6/14/02 .	Justin Hubbert	PAM1014	002-574	2.5	300	750000	6/17/02	21	22	0.00	0.00€+00
6/14/02 i	R. Petty/ W.C.	PAM1015	002-768	2.5	593	1482500	6/17/02	22	22	0.00	0.00E+00
6/14/02 \	Leonard Smith	PAM1016	006-234	2.5	370	925000	6/17/02	19	22	0.00	0.00E+00

# Personal Air Monitoring Summary Sheet (PAM's -4 Day Analysis) 341 East Ohio Street Site - Chicago, IL

***Note: All samples on this page were analyzed after 4 days to allow for thorium daughter decay

Date Collected	Name	Sample ID	PAM #	Flow Rate (lpm)	Total Time Sampled	Total Sample Volume (ml)	Analysis Date	Gross Counts (30 min)	Bkg Counts (30 min)	Net CPM	Sample Concentration (uCi/ml)
6/7/02	R. Petty	PAM1003	002-574	2.5	530	1325000	6/12/02	17	19	0.00	0.00E+00
6/7/02	Leonard Smith	PAM1004	002-766	2.5	535	1337500	6/12/02	16	19	0.00	0.00E+00
6/10/02	Leonard Smith	PAM1005	002-766	2.5	540	1350000	6/14/02	16	17	0.00	0.00E+00
6/10/02	R. Petty / W.C.	PAM1006	002-574	2.5	550	1375000	6/14/02	17	17	0.00	0.00E+00
6/10/02	Justin Hubbert	PAM1007	002-675	2.5	410	1025000	6/14/02	14	17	0.00	0.00E+00
6/12/02	Glenn Huber	PAM1010	002-768	2.5	600	1500000	6/17/02	22	22	0.00	0.00E+00
6/12/02	R. Petty / W.C.	PAM1011	002-574	2.5	587	1467500	6/17/02	20	22	0.00	0.00E+00

Personal Air Monitoring Summary Sheet (PAM's -Daily Analysis)
341 East Ohio Street Project - Chicago, IL

Week 3 June 17 - June 21, 2002

*** All PAM's with elevated counts on day after analysis are recounted after 4 days (see attached)

				Flow	Total	Total		Gross	Bkg		Sample
Date	,			Rate	Time	Sample	Analysis	Counts	Counts	Net	Concentration
Collected	Name	Sample ID	PAM #	(Ipm)	Sampled	Volume (ml)	Date	(30 min)	(30 min)	CPM	(uCi/ml)
6/17/02	Justin Hubbert	PAM1017	002-574	2.5	320	800000	6/18/02	18	16	0.07	2.14E-14
	R. Petty/ W.C.	PAM1018	002-675	2.5	577	1442500	6/18/02	34	16	0.60	
6/17/02	Brett Barton	PAM1019	002-574	2.5	<b>8</b> 5	212500	6/18/02	28	16	0.40	4.83E-13
6/17/02	Leonard Smith	PAM1020	006-234	2.5	320	800000	6/18/02	16	16	0.00	0.00E+00
6/18/02	R. Petty/W.C.	PAM1021	002-675	2.5	580	1450000	6/19/02	37	25	0.40	7.08E-14
6/18/02	Justin Hubbert	PAM1022	006-234	2.5	300	750000	6/19/02	24	25	0.00	
6/18/02	Leonard Smith	PAM1023	002-574	2.5	180	450000	6/19/02	20	25	0.00	0.00E+00
6/19/02	Justin Hubbert	PAM1024	002-875	2.5	250	625000	6/20/02	17	17	0.00	0.00E+00
6/19/02	Leonard Smith	PAM1025	002-675	2.5	240	600000	6/20/02	21	17	0 13	5 70E-14
6/19/02	R. Petty/W.C.	PAM1028	002-574	2.5	570	1425000	8/20/02	26	17	0.30	
6/20/02	Leonard Smith	PAM1027	006-234	2.5	540	1350000	6/21/02	38	18	0.67	
6/20/02	Justin Hubbert	PAM1028	002-574	2.5	265	662500	6/21/02	35	16	0.63	
8/20/02	R. Petty/W.C.	PAM1029	002-766	2.5	570	1425000	6/21/02	43	16	0.90	
6/21/02	Odell	PAM1030	006-234	2.5	120	300000	6/24/02	18	22	0.00	
6/21/02	Leonard Smith	PAM1031	002-574	2.5	555	1387500	6/24/02	16	22	0.00	
6/21/02	R. Petty/W.C.	PAM1032	002-766	2.5	560	1400000	6/24/02	19	22	0.00	

Personal Air Monitoring Summary Sheet (PAM's -4 Day Analysis) 341 East Ohio Street Site - Chicago, IL

Week 3 June 17 - June 21, 2002

***Note: All samples on this page were analyzed after 4 days to allow for thorium daughter decay

				Flow	Total	Total		Gross	Bkg		Sample
Date				Rate	Time	Sample	Analysis	Counts	Counts	Net	Concentration
Collected	Name	Sample ID	PAM #	(lpm)	Sampled	Volume (ml)	Date	(30 min)	(30 min)	CPM	(uCi/ml)
6/17/02	Justin Hubbert	PAM1017	002-574	2.5	320	800000	6/21/02	16	16	0.00	0.00E+00
6/17/02	R. Petty / W.C.	PAM1018	002-675	2.5	577	1442500	6/21/02	18	16	0.07	1.19E-14
6/17/02	Brett Barton	PAM1019	002-574	2.5	85	212500	6/21/02	16	16	0.00	0.00E+00
6/18/02	R. Petty / W.C.	PAM1021	002-675	2.5	580	1450000	6/24/02	21	22	0.00	0.00E+00
6/19/02	Leonard Smith	PAM1025	002-675	2.5	240	600000	6/24/02	18	22	0.00	0.00E+00
6/19/02	R. Petty / W.C.	PAM1026	002-574	2.5	570	1425000	6/24/02	23	22	0.03	6.00E-15
6/20/02	Leonard Smith	PAM1027	006-234	2.5	540	1350000	6/25/02	20	18	0.07	1.27E-14
6/20/02	Justin Hubbert	PAM1028	002-574	2.5	265	662500	6/25/02	16	18	0.00	0.00E+00
6/20/02	R. Petty / W.C.	PAM1029	002-766	2.5	570	1425000	6/25/02	18	18	0.00	0.00E+00

Occupational Dose Limit for Occupational Radiation Exposure = 5 rem Total Effective Dose Equivalent

2000 DAC-Hours = 5 rem

DAC (Derived Air Concentration) for Th-232 = 5E-13uCi/ml

Week 4 June 24 - June 28, 2002

341 East Ohlo Street Site - Chicago, IL

***Note: All samples on this page were analyzed after 4 days to allow for thorlum daughter decay

				Flow	Total	Total		Gross	Bkg		Sample	% of
Date		)		Rate	Time	Sample	Analysis	Counts	Counts	Net	Concentration	DAC
Collected	Name	Sample ID	PAM#	(lpm)	Sampled	Volume (mi)	Date	(30 min)	(30 min)	СРМ	(uCi/ml)	
6/24/02	R. Petly / W.C.	PAM1033	002-765	2.5	565	1412500	6/28/02	18	19	0.00	0.00E+00	0.00%
8/24/02	Leonard Smith	PAM1034	002-574	2.5	565	1412500	6/28/02	21	19	0.07	1.215-14	2.42%
6/25/02	Leonard Smith	PAM1035	006-234	2.5	240	600000	7/1/02	22	20	0.07	2.85E-14	5.70%
6/25/02	Justin Hubbert	PAM1036	006-234	2.5	180	450000	7/1/02	20	20	0.00	0.00E+00	0.00%
6/25/02	R. Petty / W.C.	PAM1037	002-875	2.5	520	1300000	7/1/02	20	20	0.00	0.00E+00	0.00%
6/26/02	Leonard Smith	PAM1038	002-766	2.5	240	600000	7/1/02	16	20	0.00	0.00E+00	0.00%
6/26/02	R. Petty / W.C.	PAM1039	002-574	2.5	555	1387500	7/1/02	17	20	0.00	0.00E+00	0.00%
6/27/02	Leonard Smith	PAM1041	002-675	2.5	290	725000	7/2/02	15	16	0.00	0.00E+00	0.00%

Occupational Dose Limit for Occupational Radiation Exposure = 5 rem Total Effective Dose Equivalent

2000 DAC-Hours = 5 rem

DAC (Derived Air Concentration) for Th-232 = 5E-13uCi/ml

# Personal Air Monitoring Summary Sheet (PAM's -Daily Analysis) 341 East Ohio Street Project - Chicago, IL

Week 4 June 24 - June 28, 2002

*** All PAM's with elevated counts on day after analysis are recounted after 4 days (see attached)

										<del></del>	
				Flow	Total	Total		Gross	Bkg		Sample
Date		1		Rate	Time	Sample	Analysis	Counts	Counts	Net	Concentration
Collected	Name	Sample ID	PAM #	(lpm)	Sampled	Volume (ml)	Date	(30 min)	(30 min)	CPM	(uCi/ml)
6/24/02	R. Petty/W.C.	PAM1033	002-786	2.5	585	1412500	6/25/02	27	18	0.30	5.45E-14
8/24/02	Leonard Smith	PAM1034	002-574	2.5	565	1412500	8/25/02	22	18	0.13	2.42E-14
6/25/02	Leonard Smith	PAM1035	006-234	2.5	240	600000	6/26/02	30	19	0.37	1.57E-13
6/25/02	Justin Hubbert	PAM1038	008-234	2.5	180	450000	6/26/02	28	19	0.30	1.71E-13
6/25/02	R. Petty/W.C.	PAM1037	002-675	2.5	520	1300000	6/28/02	45	19	0.87	1.71E-13
6/26/02	Leonard Smith	PAM1038	002-766	2.5	240	600000	6/27/02	36	19	0.57	2.42E-13
6/26/02	R. Petty/W.C.	PAM1039	002-574	2.5	555	1387500	6/27/02	44	19	0.83	1.54E-13
6/26/02	Justin Hubbert	PAM1040	002-786	2.5	280	700000	6/27/02	18	19	0.00	0.00E+00
6/27/02	Leonard Smith	PAM1041	002-675	2.5	290	725000	6/28/02	22	19	0.10	3.54E-14
6/27/02	R. Petty/W.C.	PAM1042	008-234	2.5	570	1425000	6/28/02	14	19	0.00	0.00E+00
6/27/02	Justin Hubbert	PAM1043	002-675	2.5	270	675000	6/28/02	16	19	0.00	0.00E+00
6/28/02	Leonard Smith	PAM1044	008-234	2.5	555	1387500	7/1/02	16	20	0.00	0.00E+00
6/28/02	R. Petty/W.C.	PAM1045	002-675	2.5	555	1387500	7/1/02	18	20	0.00	0.00E+00

Week 5 July 1 - July 3, 2002

	### All PAM's with elevated counts on day after analysis are recounted after 4 days (see attached)													
Date Collected	Name	Sample (D	PAM #	Flow Rate (ipm)	Total Time Sampled	Total Sample Volume (mi)	Analysis Date	Gross Counts (30 min)	Bkg Counts (30 min)	Net CPM	Sample Concentration (uCi/ml)			
7/1/02	Justin Hubbert	PAM1048	002-788	2.5	474	1185000	7/2/02	18	16	0.07	1.44E-1			
7/1/02	R. Petty/W.C.	PAM1047	002-574	2.5	475	1187500	7/2/02	15	16	0.00	0.00E+0			
7/2/02	Justin Hubbert	PAM1048	002-574	2.5	495	1237500	7/3/02	24	18	0.20	4.15E-1			
7/2/02	R. Petty/W.C.	PAM1049	006-234	2.5	500	1250000	7/3/02	18	18	0.00	0.00E+0			
7/3/02	Justin Hubbert	PAM1050	002-786	2.5	500	1250000	7/8/02	18	22	0.00	0.00E+			
7/3/02	R. Petty/W.C.	PAM1051	002-574	2.5	510	1275000	7/8/02	19	22	0.00	0.00E+0			

Only 3 sample collection days due to 4th of July holiday

Personal Air Monitoring Summary Sheet (PAM's -4 Day Analysis)
341 East Ohio Street Site - Chicago, IL

Week 5 July 1 - July 3, 2002

***Note: All samples on this page were analyzed after 4 days to allow for thorium daughter decay

Date Collected	Name	Sample ID	PAM#	Flow Rate (Ipm)	Total Time Sampled	Total Sample Volume (ml)	Analysis Date	Gross Counts (30 min)			Sample Concentration (uCl/ml)	% of DAC
7/1/02	Justin Hubbert	PAM1046	002-766	2.5	474	1185000	7/8/02	21	22	0.00	0.00E+00	0.00%
7/2/02	Justin Hubbert	PAM1048	002-574	2.5	495	1237500	7/8/02	23	22	0.03	6.91E-15	1.38%

Occupational Dose Limit for Occupational Radiation Exposure = 5 rem Total Effective Dose Equivalent

2000 DAC-Hours = 5 rem

DAC (Derived Air Concentration) for Th-232 = 5E-13uCi/ml

Week 6 July 8 - July 12, 2002

341 East Ohio Street Project - Chicago, IL

*** All PAM's with elevated counts on day after analysis are recounted after 4 days (see attached)

				Flow	Total	Total		Gross	Bkg	· -	Sample
Date	!			Rate	Time	Sample	Analysis	Counts	Counts	Net	Concentration
Collected	Name	Sample ID	PAM #	(lpm)	Sampled	Volume (ml)	Date	(30 min)	(30 min)	CPM	(uCi/ml)
7/8/02	Leonard Smith	PAM1052	002-768	2.5	240	800000	7/9/02	19	22	0.00	0.00E+00
7/8/02	Justin Hubbert	PAM1053	002-766	2.5	270	675000	7/9/02	23	22	0.03	1.27E-14
7/8/02	R. Petty/W.C.	PAM1054	002-574	2.5	545	1362500	7/9/02	21	22	0.00	0.00E+00
7/9/02	Justin Hubbert	PAM1055	006-234	2.5	272	680000	7/10/02	18	18	0.00	0.00E+00
7/9/02	Leonard Smith	PAM1056	006-234	2.5	232	580000	7/10/02	17	18	0.00	0.00E+00
7/9/02	R. Petty/W.C.	PAM1057	002-675	2.5	557	1392500	7/10/02	16	18	0.00	0.00E+00
7/10/02	Leonard Smith	PAM1058	006-234	2.5	240	600000	7/11/02	17	19	0.00	0.00E+00
7/10/02	Justin Hubbert	PAM1059	006-234	2.5	217	542500	7/11/02	15	19	0.00	0.00E+00
7/10/02	R. Petty/W.C.	PAM1060	002-675	2.5	515	1287500	7/11/02	19	19	0.00	0.00E+00
7/11/02	R. Petty/W.C.	PAM1061	006-234	2.5	500	1250000	7/12/02	16	17	0.00	0.00E+00
7/11/02	Leonard Smith	PAM1062	002-875	2.5	530	1325000	7/12/02	15	17	0.00	0.00E+00
7/12/02	Justin Hubbert	PAM1083	002-675	2.5	277	692500	7/15/02	17	17	0.00	0.00E+00
7/12/02	Leonard Smith	PAM1064	002-875	2.5	239	597500	7/15/02	16	17	0.00	0.00E+00
7/12/02	R. Petty/W.C.	PAM1065	006-234	2.5	557	1392500	7/15/02	19	17	0.07	1.23E-14

Week 6 July 8 - July 12, 2002

341 East Ohio Street Site - Chicago, IL

***Note: All samples on this page were analyzed after 4 days to allow for thorium daughter decay

				Flow	Total	Total		Gross	Bkg		Sample	% of
Date				Rate	Time	Sample	Analysis	Counts	Counts	Net	Concentration	DAC
Collected	Name	Sample ID	PAM #	(ipm)	Sampled	Volume (mi)	Date	(30 min)	(30 min)	CPM	(uCi/ml)	
7/8/02	Justin Hubbert	PAM1053	002-768	2.5	270	875000	7/8/02	17	17	0.00	0.00E+00	0.00%
7/12/02	R. Petty/W.C.	PAM1065	006-234	2.5	557	1392500	7/18/02	18	21	0.00	0.00E+00	0.00%
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Occupational Dose Limit for Occupational Radiation Exposure = 5 rem Total Effective Dose Equivalent

2000 DAC-Hours = 5 rem

DAC (Derived Air Concentration) for Th-232 = 5E-13uCi/ml

Personal Air Monitoring Summary Sheet (PAM's -Daily Analysis) 341 East Ohio Street Project - Chicago, IL

Week 7 July 15 - July 19, 2002

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		All PAM's with elevated counts on day			
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		rui Fran a milli digvalou Couliia on un	anci anansis ara reconnico ai	15 3 4	1843 (386 8118(3181))

1				Flow	Total	Total		Gross	Bkg		Sample .
Date				Rate	Time	Sample	Analysis	Counts	Counts	Net	Concentration
Collected	Name	Sample (D	PAM#	(ipm)	Sampled	Volume (ml)	Date	(30 min)	(30 min)	CPM	(uCi/ml)
7/15/02	Leonard Smith	PAM1066	002-875	2.5	540	1350000	7/16/02	18	21	0.00	8.00E+00
7/15/02	R. Petty/W.C.	PAM1067	002-574	2.5	554	1385000	7/16/02	24	21	0.10	1.85E-14
7/16/02	Leonard Smith	PAM1068	006-234	2.5	265	662500	7/17/02	28	22	0.20	7.75E-14
7/16/02	Justin Hubbert	PAM1069	006-234	2.5	205	512500	7/17/02	29	22	0.23	1.17E-13
7/16/02	R, Petty/W.C.	PAM1070	002-766	2.5	485	1212500	7/17/02	18	22	0.00	0.00E+00
7/17/02	Leonard Smith	PAM1071	002-574	2.5	240	600000	7/18/02	28	18	0.33	1.43E-13
7/17/02	Justin Hubbert	PAM1072	002-574	2.5	285	712500	7/18/02	35	18	0.57	2.04E-13
7/17/02	R. Petty/W.C.	PAM1073	000-875	2.5	560	1400000	7/18/02	34	18	0.53	9.78E-14
7/18/02	Leonard Smith	PAM1074	002-766	2.5	235	587500	7/19/02	16	17	0.00	0.00E+00
7/18/02	Justin Hubbert	PAM1075	002-766	2.5	195	487500	7/19/02	21	17	0.13	7.02E-14
7/18/02	R. Petty/W.C.	PAM1076	006-234	2.5	480	1150000	7/19/02	25	17	0.27	5.95E-14
7/19/02	R. Petty/W.C.	PAM1077	002-675	2.5	535	1337500	7/22/02	15	18	0.00	0.00E+00
7/19/02	Justin Hubbert	PAM1078	006-234	2.5	580	1450000	7/22/02	17	18	0.00	0.00E+00

Week 7 July 15 - July 19, 2002

341 East Ohio Street Site - Chicago, IL

***Note: All samples on this page were analyzed after 4 days to allow for thorium daughter decay

				Flow	Total	Total		Gross	Bkg		Sample	% of
Date				Rate	Time	Sample	Analysis	Counts	Counts	Net	Concentration	DAC
Collected	Name	Sample ID	PAM #	(ipm)	Sampled	Volume (ml)	Date	(30 min)	(30 min)	CPM	(uCl/mi)	
7/15/02	R. Petty/W.C.	PAM1067	002-574	2.5	554	1385000	7/19/02	17	17	0.00	0.00E+00	0.009
7/16/02	Leonard Smith	PAM1068	006-234	2.5	265	662500	7/22/02	16	18	0.00	0.00E+00	0.009
7/16/02	Justin Hubbert	PAM1089	008-234	2.5	205	512500	7/22/02	17	18	0.00	0.00E+00	0.009
7/17/02	Leonard Smith	PAM1071	002-574	2.5	240	500000	7/22/02	17	18	0.00	0.00E+00	0.009
7/17/02	Justin Hubbert	PAM1072	002-574	2.5	285	712500	7/22/02	18	18	0,00	0.00€+00	0.009
7/17/02	R. Petty/W.C.	PAM1073	002-675	2.5	560	1400000	7/22/02	20	18	0.07	1.22E-14	2.449
7/18/02	Justin Hubbert	PAM1075	002-766	2.5	195	487500	7/23/02	18	17	0.03	1.75E-14	3.519
7/18/02	R. Petty/W.C.	PAM1076	008-234	2.5	460	1150000	7/23/02	17	17	0.00	0.00E+00	0.009

Occupational Dose Limit for Occupational Radiation Exposure = 5 rem Total Effective Dose Equivalent

2000 DAC-Hours = 5 rem

DAC (Derived Air Concentration) for Th-232 = 5E-13uCi/ml

Week 8 July 22 - July 26, 2002

341 East Ohio Street Project - Chicago, IL

*** All PAM's with elevated counts on day after analysis are recounted after 4 days (see attached)

Date Collected		Sample (D	PAM#	Flow Rate (Ipm)	Total Time Sampled	Total Sample Volume (mi)	Analysis Date	Gross Counts (30 min)	Bkg Counts (30 min)	Net CPM	Sample Concentration (uCi/ml)
			002-574	2.5		550000	7/23/02	16	17	0.00	
7/22/02	Roger Petty	PAM1080	008-234	2.5	203	507500	7/23/02	19	17	0.07	3.37E-1

Week 8 July 22 - July 26, 2002

341 East Ohio Street Site - Chicago, IL	
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***Note: All samples on this	page were analyzed after 4	l days to allow for thorium daughter decay

Date				Flow Rate	Total Time	Total Sample	Analysis		Bkg Counts		Sample Concentration	% of DAC
Collected	Name	Sample ID		(lpm)		Volume (ml)		(30 min)	(30 min)	CPM	(uCi/mi)	
7/22/02	R. Petty/W.C.	PAM1080	006-234	2.5	203	507500	7/26/02	19	21	0.00	0.00E+00	0.00%
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Occupational Dose Limit for Occupational Radiation Exposure = 5 rem Total Effective Dose Equivalent

2000 DAC-Hours = 5 rem

DAC (Derived Air Concentration) for Th-232 = 5E-13uCi/ml

Week 9 July 29 - August 2, 2002

341 East Ohio Street Project - Chicago, IL

All PAM's with elevated counts on day after analysis are recounted after 4 days (see attached)

Date Collected	Name	Sample ID	PAM#	Flow Rate (Ipm)	Total Time Sampled	Total Sample Volume (mi)	Analysis Date	Gross Counts (30 min)	Bkg Counts (30 min)	Net CPM	Sample Concentration (uCi/ml)
8/1/02	Leonard Smith	PAM1081	006-234	2.5	210	525000	8/2/02	19	17	0.07	3 26E-14
8/1/02	Roger Petty	PAM1082	002-675	2.5	390	975000	8/2/02	23	17	C.20	5 26E-14
8/2/02	Leonard Smith	PAM1083	002-768	2 5	155	387500	8/5/02	19	19	0.00	0.00E+00
8/2/02	Roger Petty	PAM1084	002-574	2 5	305	762500	8/5/02	18	19	0.00	0 D0E+00

Week 9 July 29 - August 2, 2002

341 East Ohio Street Site - Chicago, IL

***Note: All samples on this page were analyzed after 4 days to allow for thorium daughter decay

				Flow	Total	Total		Gross	Bkg		Sample	% of
Date				Rate	Time	Sample	Analysis	Counts	Counts	Net	Concentration	DAC
Collected	Name	Sample ID	PAM #	(lpm)	Sampled	Volume (ml)	Date	(30 min)	(30 min)	CPM	(uCi/ml)	
8/1/02	Leonard Smith	PAM1081	008-234	2.5	210	525000	8/6/02	18	22	0,00	0.00E+00	0.00%
8/1/02	Roger Petty	PAM1082	002-875	2.5	390	975000	8/6/02	19	22	0.00	0.00E+00	0.00%

Occupational Dose Limit for Occupational Radiation Exposure = 5 rem Total Effective Dose Equivalent

2000 DAC-Hours = 5 rem

DAC (Derived Air Concentration) for Th-232 = 5E-13uCi/ml

Personal Air Monitoring Summary Sheet (PAM's -4 Day Analysis)
341 East Ohio Street Site - Chicago, IL

Week 10 August 5 - August 9, 2002

***Note: All samples on this page were analyzed after 4 days to allow for thorium daughter decay

Date Collected	Name	Sample iD	PAM #	Flow Rate (Ipm)	Total Time	Total Sample Volume (mi)	Analysis	Gross	Bkg Counts	Net	Sample Concentration	% of DAC
O PAM's Di	iring <b>Week</b> of	f 8/5/02 - 8/9/02										

Occupational Dose Limit for Occupational Radiation Exposure = 5 rem Total Effective Dose Equivalent

2000 DAC-Hours = 5 rem

DAC (Derived Air Concentration) for Th-232 = 5E-13uCi/ml

Personal Air Monitoring Summary Sheet (PAM's -Daily Analysis)
341 East Ohio Street Project - Chicago, IL

Week 10 August 5 - August 9, 2002

All PAM's with elevated counts on day after analysis are recounted after 4 days (see attached)
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Date collected	Name	Sample ID	PAM#	Flow Rate (lpm)	Total Time Sampled	Total Sample Volume (mi)	Analysis Date	Gross Counts (30 min)	Bkg Counts (30 min)	Net CPM	Sample Concentratio (uCi/ml)
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Personal Air Monitoring Summary Sheet (PAM's -Daily Analysis) 341 East Ohio Street Project - Chicago, IL

Week 11 August 12 - August 16, 2002

*** All PAM's with elevated counts on day after analysis are recounted after 4 days (see attached)

Date Collected	Name	Sample ID	PAM#	Flow Rate (lpm)	Total Time Sampled	Total Sample Volume (mi)	Analysis Date	Gross Counts (30 min)	Bkg Counts (30 min)	Net CPM	Sample Concentration (uCi/ml)
8/16/02	Leonard Smith	PAM1085	002-574	2.5	220	550000	8/19/02	17	18	0.00	0.00E+00
8/16/02	Roger Petty	PAM1086	002-766	2.5	220	550000	8/19/02	18	18	0.00	0.00E+00

Week 11 August 12 - August 16, 2002

341 East Ohio Street Site - Chicago, IL

***Note: All samples on this page were analyzed after 4 days to allow for thorium daughter decay

1		1		Flow	Total	Total		Gross	Bkg		Sample	% 0
Date				Rate	Time	Sample	Analysis	Counts	Counts	Net	Concentration	DAG
ollected	Name	Sample ID	PAM#	(ipm)	Sampled	Volume (ml)	Date	(30 min)	(30 min)	СРМ	(uCi/ml)	
IO 4 Day An	alvoja Paguiro	ad All Day Aff	or Counts	at Backa	round Love							
4 Day Ana	aiysis Kequire	ed - Ali Day Aft	er Counts	at backg	rouna Leve	tis						

Occupational Dose Limit for Occupational Radiation Exposure = 5 rem Total Effective Dose Equivalent

2000 DAC-Hours = 5 rem

DAC (Derived Air Concentration) for Th-232 = 5E-13uCi/ml

Week 12 August 19 - August 23, 2002

341 East Ohio Street Project - Chicago, IL

*** All PAM's with elevated counts on day after analysis are recounted after 4 days (see attached)

Date				Flow Rate	Total Time	Total Sample	Analysis	Gross Counts	Bkg Counts	Net	Sample Concentration
Collected	Name	Sample ID	PAM #	(lpm)	Sampled	Volume (ml)	Date	(30 min)	(30 min)	CPM	(uCi/ml)
8/19/02	Leonard Smith	PAM1087	002-574	2.5	322	805000	8/20/00	19	19	0.00	0.00E+00
8/19/02	Roger Petty	PAM1088	006-234	2.5	320	000000	8/20/02	18	18	0.00	0.00E+00
8/20/02	Glenn Huber	PAM1089	006-234	2.5	132	330000	8/21/02	20	18	0.07	5.19E-14
8/20/02	Roger Petty	PAM1090	002-574	2.5	135	337500	8/21/02	17	18	0.00	0.00E+00
8/21/02	Leonard Smith	PAM1091	002-574	2.5	395	987500	8/22/02	28	20	0.27	6.93E-14
8/21/02	Roger Petty	PAM1092	002-766	2.5	420	1050000	8/22/02	22	20	0.07	1.63E-14
8/23/02	Glenn Huber	PAM1093	002-766	2.5	135	337500	8/26/02	18	19	0.00	0.00E+00
8/23/02	Roger Petty	PAM1094	002-574	2.5	285	712500	8/26/02	16	19	0.00	0.00E+00

0.00%

0.00E+00

Personal Air Monitoring Summary Sheet (PAM's -4 Day Analysis)

PAM1092 002-766

Week 12 August 19 - August 23, 2002

19 0.00

341 East Ohio Street Site - Chicago, IL

8/21/02 Roger Petty

	<del></del>			Flow	Total	Total		Gross	Bkg		Sample	% of
Date		ł	1	Rate	Time	Sample	Analysis	Counts	Counts	Net	Concentration	DAC
Collected	Name	Sample ID	PAM#	(lpm)	Sampled	Volume (mi)	Date	(30 min)	(30 min)	CPM	(uCl/ml)	
8/20/02	Glenn Huber	PAM1089	006-234	2.5	132	330000	8/26/02	16	19	0.00	0.00E+00	0.00%
8/21/02	Leonard Smith	PAM1091	002-574	2.5	395	987500	8/26/02	17	19	0.00	0.00E+00	0.00%

420

***Note: All samples on this page were analyzed after 4 days to allow for thorium daughter decay

8/26/02

18

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Occupational Dose Limit for Occupational Radiation Exposure = 5 rem Total Effective Dose Equivalent

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2000 DAC-Hours = 5 rem

DAC (Derived Air Concentration) for Th-232 = 5E-13uCi/ml

Personal Air Monitoring Summary Sheet (PAM's -Daily Analysis)
341 East Ohio Street Project - Chicago, IL

Week 13 August 26 - August 30, 2002

 •	
	*** All PAM's with elevated counts on day after analysis are recounted after 4 days (see attached)

NO PAM's During Weak of 8/26/02 - 8/30/02	Sample Concentration (uCi/ml)	•	Net CPM	Bkg Counts (30 min)	Gross Counts (30 min)	Analysis Date	Total Sample Volume (mi)	Total Time Sampled	Flow Rate (lpm)	PAM #	Sample ID	Name	Date Collected
			_							30/02	f 8/26/02 - 8/:	During Week o	D PAM's C

Personal Air Monitoring Summary Sheet (PAM's -4 Day Analysis) 341 East Ohio Street Site - Chicago, IL

Week 13 August 26 - August 30, 2002

***Note: All samples on this page were analyzed after 4 days to allow for thorium daughter deci	""Note:	All samples on t	this page were	analyzed after 4	days to allow	for thorium daughter decay
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i I		l l		Flow	Total	Total	'	Gross	Bkg	Į.	Sample	% of
Date	1			Rate	Time	Sample	Analysis	Counts	Counts	Net	Concentration	DAC
Collected	Name	Sample ID	PAM #	(lpm)	Sampled	Volume (ml)		(30 min)	(30 min)	СРМ	(uCi/ml)	
					اسوبيب والمستدندة							
NO PAM's [	Ouring Week of &	/26/02 - <mark>8/3</mark> 0/	02									
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Occupational Dose Limit for Occupational Radiation Exposure = 5 rem Total Effective Dose Equivalent

2000 DAC-Hours = 5 rem

DAC (Derived Air Concentration) for Th-232 = 5E-13uCi/ml

Personal Air Monitoring Summary Sheet (PAM's -Daily Analysis)
341 East Ohio Street Project - Chicago II

Week 14 September 2 - September 6, 2002

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	*** All DAM's	with elevated counts on day after analysis are recounted after 4 days (see attached)

Date Collected	Name	Sample ID	PAM#	Flow Rate (lpm)	Total Time Sampled	Total Sample Volume (mi)	Analysis Date	Gross Counts (30 min)	Bkg Counts (30 min)	Net CPM	Sample Concentration (uCi/ml)
9/5/02	Leonard Smith	PAM1095	002-766	2.5	65	162500	9/6/02	16	17	0.00	0.00E+00
	Roger Petty		002-574	2.5	585		9/8/02	17	17	0.00	0.00E+00
	Lindsay Aschim		006-234	2.5	520			19	17	0.07	1.32E-14
	Roger Petty		002-766	2.5	420			16	16	0.00	0,00E+00
	Toby Shewan		002-700	2.5 2.5			- I I I I I I	1.2	16	0.00	0.00E+00
	•		002-574	2.5 2.5					16	0.00	0.00E+00

Week 14 September 2 - September 6, 2002

341 East Ohio Street Site - Chicago, IL

***Note: All samples on this page were analyzed after 4 days to allow for thorium daughter decay

Date Collected	Name	Sample iD	PAM #	Flow Rate (lpm)	Total Time Sampled	Total Sample Volume (ml)	Analysis Date	Gross Counts (30 min)	Bkg Counts (30 min)		Sample Concentration (uCVml)	% of DAC
	Lindsay Aschim		006-234	2.5		1300000				0.00		0.00
	•				323	,		,,,		2.00	3.002	0.0
							,	•				

Occupational Dose Limit for Occupational Radiation Exposure = 5 rem Total Effective Dose Equivalent

2000 DAC-Hours = 5 rem

DAC (Derived Air Concentration) for Th-232 = 5E-13uCi/ml

Week 15 September 9 - September 13, 2002

341 East Ohio Street Project - Chicago, IL

*** All PAM's with elevated counts on day after analysis are recounted after 4 days (see attached)

Date Collected	Name	Sample ID	PAM#	Flow Rate (Ipm)	Total Time Sampled	Total Sample Volume (ml)	Analysis Date	Gross Counts (30 min)	Bkg Counts (30 min)	Net CPM	Sample Concentration (uCi/ml)
9/9/02	Roger Petty	PAM1101	002-766	2.5	455	1137500	9/10/02	25	17	0.27	6.02E-14
9/9/02	Jerry Krane	PAM1102	002-574	2.5	140	350000	9/10/02	16	17	0.00	0.00E+00
9/9/02	Lindsay Aschim	PAM1103	002-574	2.5	250	625000	9/10/02	17	17	0.00	0.00E+00
9/13/02	Roger Petty	PAM1104	002-766	2.5	417	1042500	9/16/02	18	18	0.00	0.00E+00
9/13/02	Lindsay Aschim	PAM1105	002-574	2.5	420	1050000	9/16/02	17	18	0.00	0.00E+00

Week 15 September 9 - September 13, 2002

341 East Ohio Street Site - Chicago, IL

***Note: All samples on this page were analyzed after 4 days to allow for thorium daughter decay

Date Collected	Name	Sample ID	PAM#	Flow Rate (Ipm)	Total Time Sampled	Total Sample Volume (ml)	Analysis Date	Gross Counts (30 min)	Bkg Counts (30 min)	Net CPM	Sample Concentration (uCi/ml)	% of DAC
9/9/02	Roger Petty	PAM1101	002-766	2.5	455	1137500	9/13/02	16	17	0.00	0.00E+00	0.00%
												į

Occupational Dose Limit for Occupational Radiation Exposure = 5 rem Total Effective Dose Equivalent

2000 DAC-Hours = 5 rem

DAC (Derived Air Concentration) for Th-232 = 5E-13uCi/ml

Week 16 September 16 - September 20, 2002

		T		Flow	Total	unts on day af		Gross	Bkg	,0 (000	Sample
Date Collected	Name	Sample ID	PAM#	Rate	Time	Sample Volume (ml)	Analysis Date	Counts (30 min)	Counts (30 min)	Net CPM	Concentration (uCi/ml)
	Roger Petty	PAM1106	002-766	2.5	190			19	16	0.10	5.40E-14
	Lindsay Aschim	PAM1107	002-675	2.5	196	490000	9/17/02	16	16	0.00	0.00E+00
	Roger Petty	PAM1108	002-766	2.5	273	682500	9/19/02	19	17	0.07	2.51E-14
9/18/02	Lindsay Aschim	PAM1109	002-675	2.5	267	667500	9/19/02	17	17	0.00	0.00E+0

Week 16 September 16 - September 20, 2002

341 East Ohio Street Site - Chicago, IL

***Note: All samples on this page were analyzed after 4 days to allow for thorium daughter decay

				Flow	Total	Total		Gross	Bkg		Sample	% of
Date			į.	Rate	Time	Sample	Analysis	Counts	Counts	Net	Concentration	DAC
Collected	Name	Sample ID	PAM #	(ipm)	Sampled	Volume (ml)	Date	(30 min)	(30 min)	CPM	(uCi/ml)	
9/16/02	Roger Petty	PAM1106	002-766	2.5	190	475000	9/20/02	18	20	0.00	0.00E+00	0.00%
9/18/02	Roger Petty	PAM1108	002-766	2.5	273	682500	9/23/02	17	18	0.00	0.00E+00	0.00%
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Occupational Dose Limit for Occupational Radiation Exposure = 5 rem Total Effective Dose Equivalent

2000 DAC-Hours = 5 rem

DAC (Derived Air Concentration) for Th-232 = 5E-13uCi/ml

Week 17 September 23 - September 27, 2002

				Flow	Total	Total		Gross	Bkg		Sample
Date				Rate	Time	Sample	Analysis	Counts	Counts	Net	Concentration
Collected	Name	Sample ID	PAM#	(lpm)	Sampled	Volume (ml)	Date	(30 min)	(30 min)	СРМ	(uCi/ml)
9/26/02	Lindsay Aschim	PAM1110	002-766	2.5	161	402500	9/27/02	16	17	0.00	0.00E+0
9/26/02	Jerry Krane	PAM1111	002-766	2.5	164	410000	9/27/02	17	17	0.00	0.00E+0
9/26/02	Roger Petty	PAM1112	002-675	2.5	335	837500	9/27/02	19	17	0.07	2.04E-1
9/27/02	Jerry Krane	PAM1113	002-675	2.5	420	1050000	9/30/02	18	19	0.00	0.00E+0
9/27/02	Roger Petty	PAM1114	006-234	2.5	420	1050000	9/30/02	16	19	0.00	0.00E+0

Personal Air Monitoring Summary Sheet (PAM's -4 Day Analysis)

Week 17 September 23 - September 27, 2002

341 East Ohio Street Site - Chicago, IL

***Note: All samples on this page were analyzed after 4 days to allow for thorium daughter decay

				Flow	Total	Total		Gross	Bkg		Sample	% of
Date				Rate	Time	Sample	Analysis	Counts	Counts	Net	Concentration	DAC
Collected	Name	Sample ID	PAM #	(lpm)	Sampled	Volume (ml)	Date	(30 min)	(30 min)	CPM	(uCi/ml)	
9/26/02	Roger Petty	PAM1112	002-675	2.5	335	837500	10/1/02	18	18	0.00	0.00E+00	0.00%
1												
1												
Į.												

Occupational Dose Limit for Occupational Radiation Exposure = 5 rem Total Effective Dose Equivalent

2000 DAC-Hours = 5 rem

DAC (Derived Air Concentration) for Th-232 = 5E-13uCi/ml

Administrative Site Limit for Occupational Exposure = 30% Th-232 DAC = 1.5E-13 uCi/ml

Personal Air Monitoring Summary Sheet (PAM's -Daily Analysis)

Week 18 September 30 - October 4, 2002

341 East Ohio Street Project - Chicago, IL

*** All PAM's with elevated counts on day after analysis are recounted after 4 days (see attached)

				Flow	Total	Total		Gross	Bkg		Sample
Date				Rate	Time	Sample	Analysis	Counts	Counts	Net	Concentration
Collected	Name	Sample ID	PAM #	(ipm)	Sampled	Volume (ml)	Date	(30 min)	(30 min)	CPM	(uCi/ml)
9/30/02	Antoine Harvey	PAM1115	006-234	2.5	412	1030000	10/1/02	15	17	0.00	0.00E+00
9/30/02	Jerry Krane	PAM1116	002-574	2.5	355	887500	10/1/02	17	17	0.00	0.00E+00

Note: Official airborne Th-232 concentrations are obtained from 4 Day Analysis. See attached 4 Day Analysis Form for Occupational Dose Limit Information.

Personal Air Monitoring Summary Sheet (PAM's -4 Day Analysis)

Week 17 September 23 - September 27, 2002

341 East Ohio Street Site - Chicago, IL

***Note: All samples on this page were analyzed after 4 days to allow for thorium daughter decay

Date				Flow Rate	Total Time	Total Sample	Analysis	Gross Counts	Bkg Counts	Net	Sample Concentration	% of DAC
Collected	Name	Sample ID	PAM#	(lpm)	Sampled	Volume (ml)	_ Date	(30 min)	(30 min)	CPM	(uCi/ml)	
9/26/02	Roger Petty	PAM1112	002-675	2.5	335	837500	10/1/02	18	18	0.00	0.00E+00	0.00%
i												'
1												,
		•										
}												
1												
1												

Occupational Dose Limit for Occupational Radiation Exposure = 5 rem Total Effective Dose Equivalent

2000 DAC-Hours = 5 rem

DAC (Derived Air Concentration) for Th-232 = 5E-13uCi/ml

Administrative Site Limit for Occupational Exposure = 30% Th-232 DAC = 1.5E-13 uCi/ml



### **APPENDIX K**

Field Gamma Survey Results

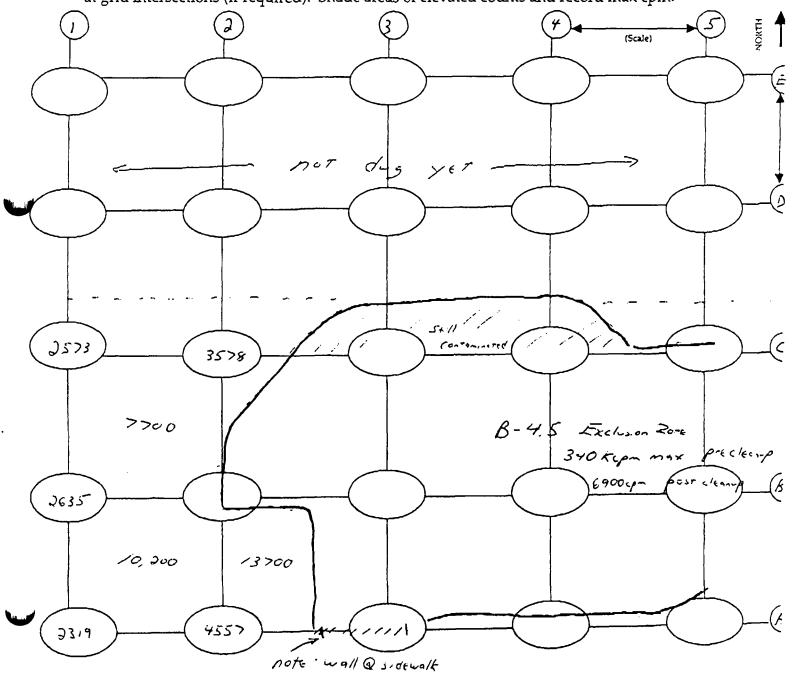
### RADIATION SURVEY FORM

Project # 25585-XI Project Name GMO Page of

STS Consultants, Ltd.

Date	6/6/02-6/10/03				her / L. Sark
Inst. Model	<-d/_ 2001		Serial No	133844	( before spot ele
Probe Type:	1'x1"Nal (2"x2" Nal Shielded (Not Shielded	Frelson so	Lift Elevation	n <u> </u>	( below aspen
	5/00			•	

Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm.



Still custominated 24 kgas shielded

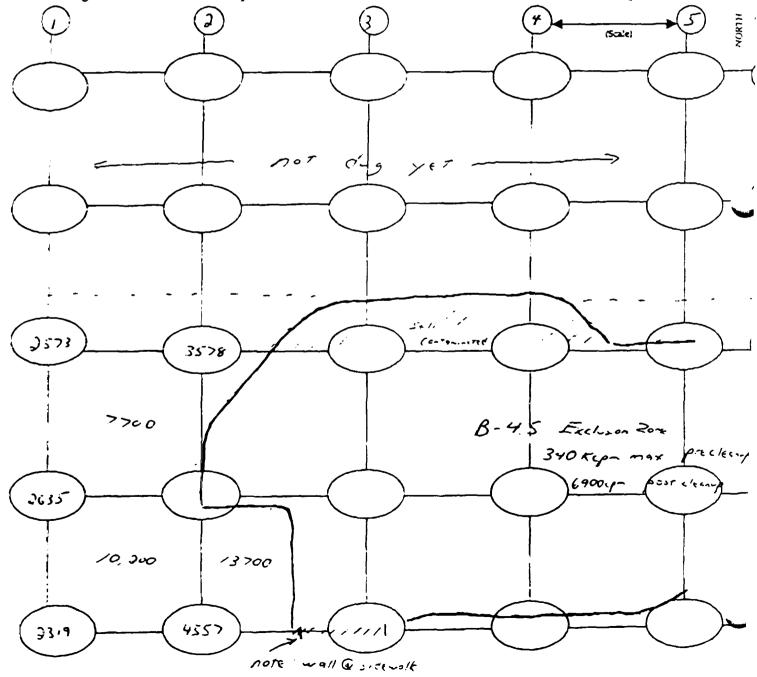
### RADIATION SURVEY FORM

Project # 25585-XI Project Name GMO Page of

Date 6/6/03 - 6/10/02 Technician Tuta Habbers 12. Sure Inst Model 6/10/03 Serial No. Serial No. Serial No. Shielded (Not Shielded for the series of States)

Background 5/100 cpm Action Level 20909 cpm

Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm.



Still oursained DYKep shoulded



Project Name GMO Page of Project # <u>25585-XI</u>

STS Consultants Ltd.

6-12-02 Date

Inst. Model Ludlum 2221

Probe Type: 1'x1"Nal / 2"x2" Nal Shielded Not Shielded

Background 5400 cpm

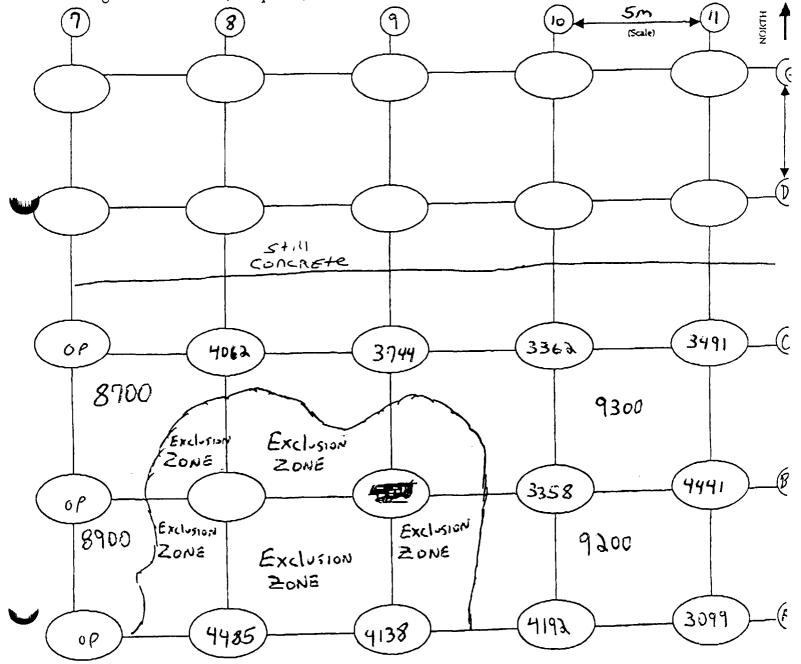
Technician Justin Hubbert
model # 130,841

Serial No. Proge # 168,148

Lift Elevation Surface

Action Level 20,909 cpm

Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm.



#### RADIATION SURVEY FORM

Project # 25585-XI Project Name GMO Page of

STS Consultants, Ltd.

Date 6-11-02

Irst Model <u>Luolum</u> 2221

Probe Type: 1'x1"Nal / 2"x2" Nal

Shielded Not Shielded

Background 5400 cpm

Technician <u>Justin Hubbert</u>

model # 132 841

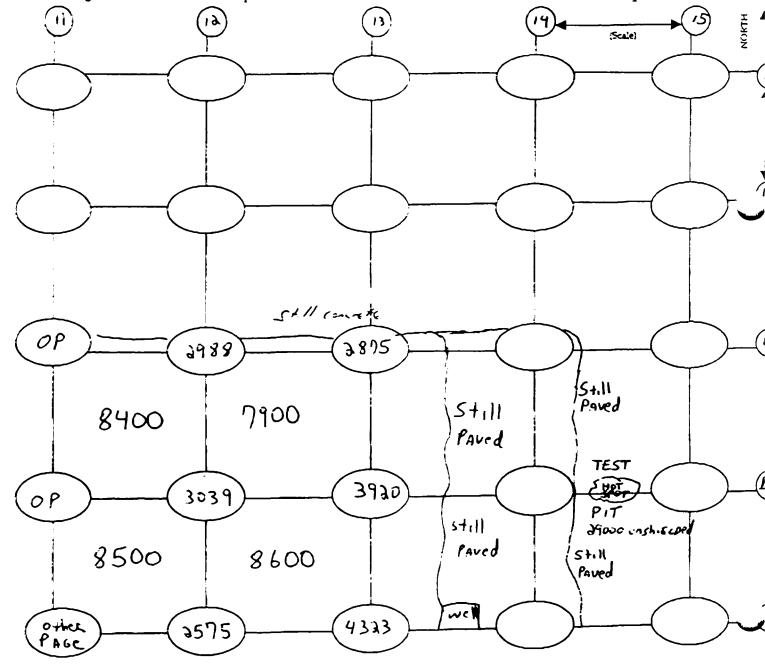
Serial No. <u>PROBE # 168148</u>

Serial No.

Action Level 20,909 cpm

Lift Elevation ______ Surface

Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm.





Project # 25585-XI Project Name GMO Page of

STS Consultants, Ltd.

Date 6-13-02 Technician Justin Hubbert

Inst. Model Lupium 2221 Serial No. Proprit 168143

Probe Type: 1'x1"Nal / 2"x2" Nal

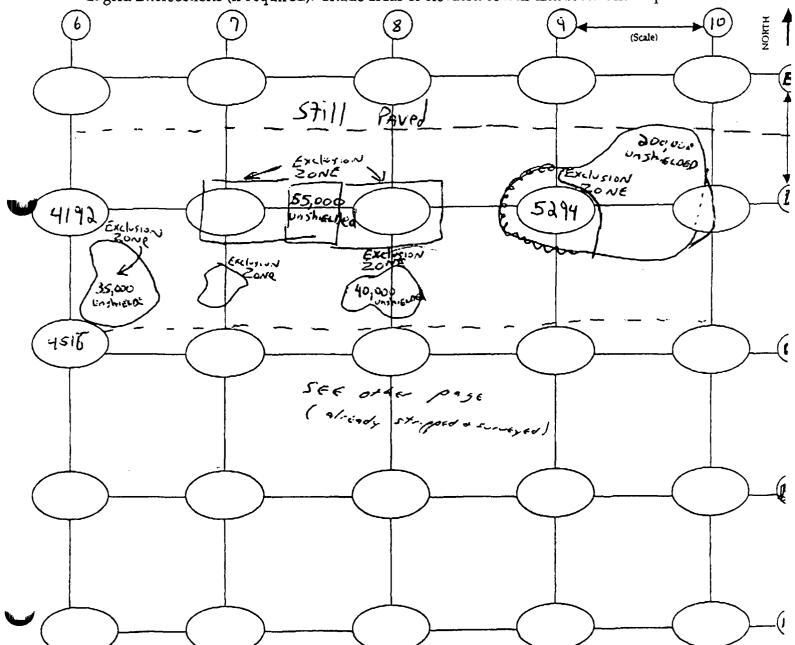
Shielded / Not Shielded

Background cpm

Action Level 20,680 cpm

Lift Elevation Surface

Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm.



## RADIATION SURVEY FORM

		Project Name <u>GMO</u>	Page of	
575 Consultants :	6-13-02	Technician_	Justin Hubbert	· •
Inst. Model	rogina 9991	Serial NoP	nodel # 126496 Robe # 168143	_
Probe Type:	1'x1"Nal / 2"x2" Nal Shielded / Not Shielded	Lift Elevation	Sun Face	_
Background	5400	cpm — Action Level	90,680 cpm	n
	esignations in circles. Record sections (if required). Shade as			nts
©	$\bigcirc$	3	(Scale)	HTRON
<u> </u>	S+.11 PaveD	still Paved		)—(
	Exclusion		Exclusion	\ .
(4192) Exclusion	20 Ne 55 Kcem Unshielded	(529	14)	
ZONE	Exclusion Zone	Exclusion		
4516	OP	OP OF	OP	_(
<b>!</b>	SEE	OTHER	PAGE	
				_(
				\/

Project # 25585-x1 Project Name GMO Page of SDECa maltar is 14d Technician Sustan Hobbers Date 6-13 02 Inst Model in lon 3221 Serial No Piche 开16~173 Lift Elevation Schface Probe Type: TxT Nal / 2"x2" Nal Shielded / Not Shielded. -900 cpm Action Level 26, 650 Background crini Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm  $-\frac{1}{(Sade)} - (\cancel{A})$ Still Paved Still Paved 15900 10300 16400 (46 x 3) (4347) 3335 4335 17300 10300 けんさい 10300

## RADIATION SURVEY FORM

C_	Project * 25585-XT	Project Name GMO	Page of
STS Consultants, Utd			
Date	6-13-02	Technician_	Justin Hubbert
Inst Model	Ludlum 2221	Seria! No	mdel # 126 496 PROBC# 168143
Probe Type: Tx Shi	1"Nai / 2"x2 Na! ielded Not Shielded	Lift Elevatio	on Surface
Background		cpm — Action Leve	20,680 cpm
Write grid design	nations in circles. Record ons (if required). Shade a	highest counts for grid in creas of elevated counts and	cpm. Record 30 second counts is record max cpm.
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	51.11 Pared		Still
	rated		
,			
(-	4317	1385	4623
7700	16400	15900	i0300
CARA	OP (	cP (0)	(OP)_
7800	/0200	10200	19300
<u> </u>			

UNSHIELDED

# SR

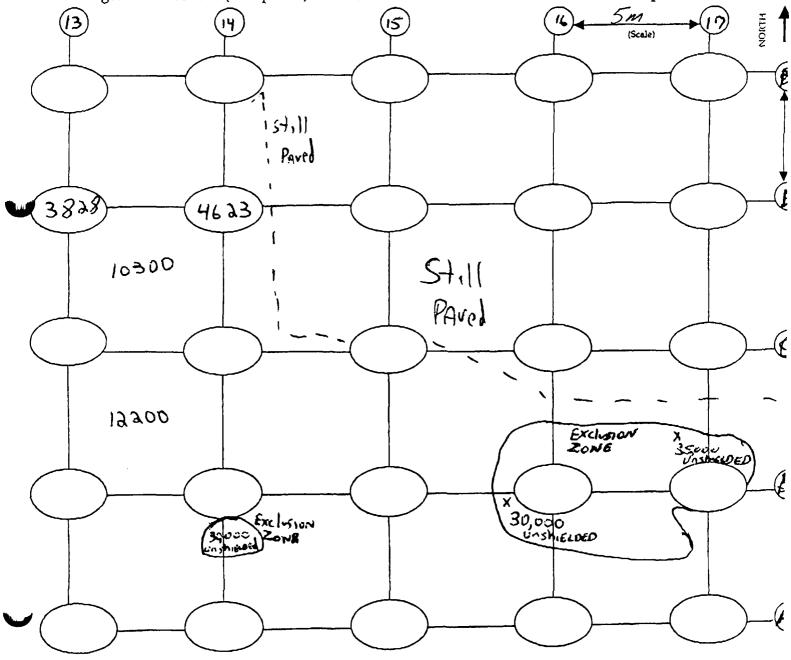
## RADIATION SURVEY FORM A-M

Project # 25585-XI Project Name GMO Page of

STS Consultants, Ltd.

Date	6-13-02		Technician Justin Hubbert
Inst. Model _	Luslum 2221		!nooe1 # 126996 Serial No. Probe # 168143
Probe Type:	1'x1"Nal / 2"x2" Nal Shielded / Not Shielded		Lift Elevation Surface
Background_	5400	cpm	Action Level 30,680 cpm

Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm.

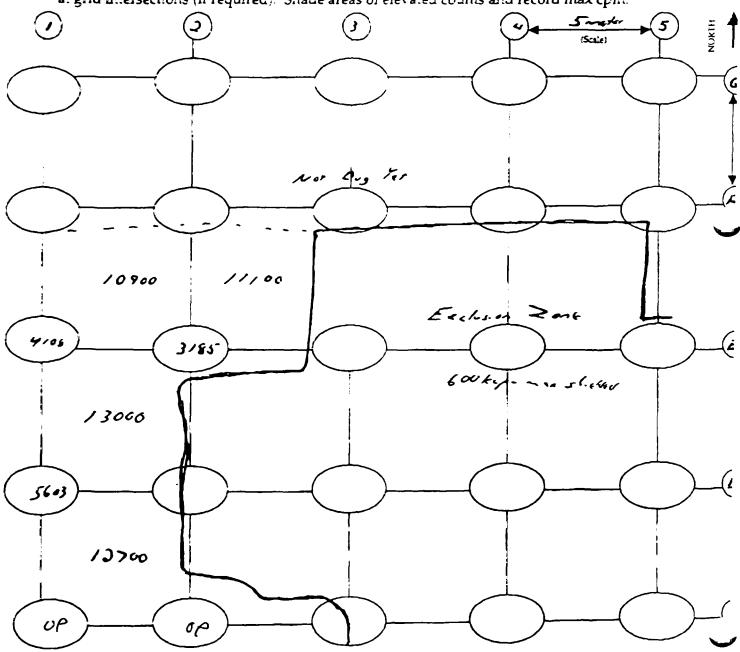


Probe Type: 1'x1"Nal 2'x2" Nal

Shielded , wot Shielded

Background _____ cpm Action Level _____ cpm

Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm.





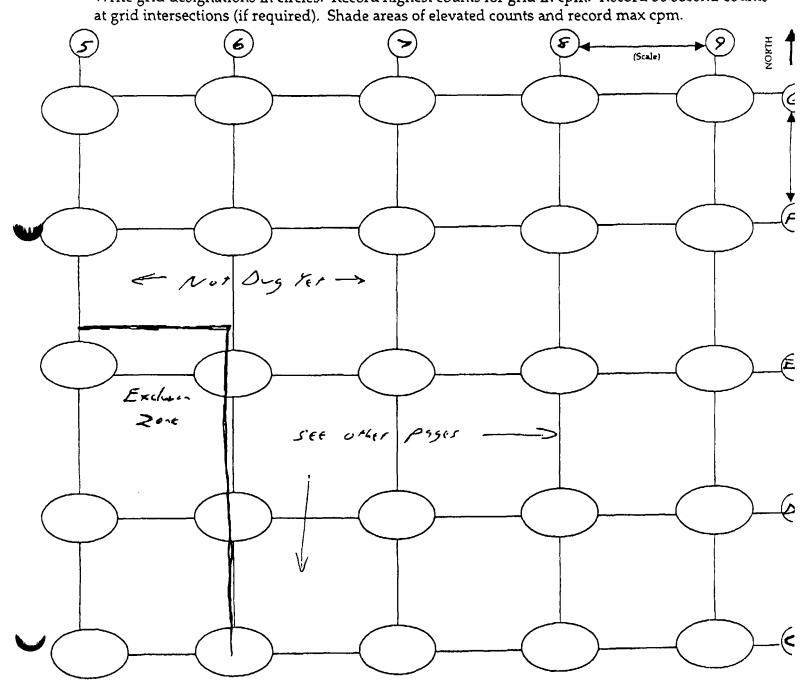
Project # 25585-XI Project Name GMO Page of

STS Consultants, Ltd

Technician Slem Huber 6/13 - 6/14/02 Inst. Model ______ Serial No. 132 844 Lift Elevation _______ Probe Type: 1'x1"Nal 2"x2" Nal

Shielded / Not Shielded

Background _____cpm Action Level <u>30509</u> cpm Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts





Project # 25585-XI

### RADIATION SURVEY FORM

Project Name GMO Page of

6-17-04 Technician Date Inst Model Ludlum 2221 Serial No Manual 171991 Surface Probe Type: 1'x1"Nal / 2'x2" Nal Shielded / Not Shielded Lift Elevation _ Action Level 22523 cpm 5400 Background____ ____ cpm Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm. E Asphalt > AsphaH Still here 1 Tares NO CONCARGE 465 unshittoed Exclosion 2004 EXCLUSION ZONE 12500 Zone 12700 EXELITION ZONE 45K Jushice 15 convete WALL. 4851 6047 4318 4421 No conick BELL PLACE אוא 11900 unth Fred 12300 Exclosion ZONE 35 Kunshelord e concete & t concrete a
Still liere Concrete still ? Here EXCLUSION Exclasion EXCLUSION ZONE 1 gars Zone



Project # 25585-XI Project Name GMO Page of ?

STS Consultants, Ltd.

Date ______ 6/21/02

Inst. Model Lullan 2221

Probe Type: 1'x1"Nal / 2"x2" Nal Shielded / Not Shielded

Background 2,200 - 4,600 cpm

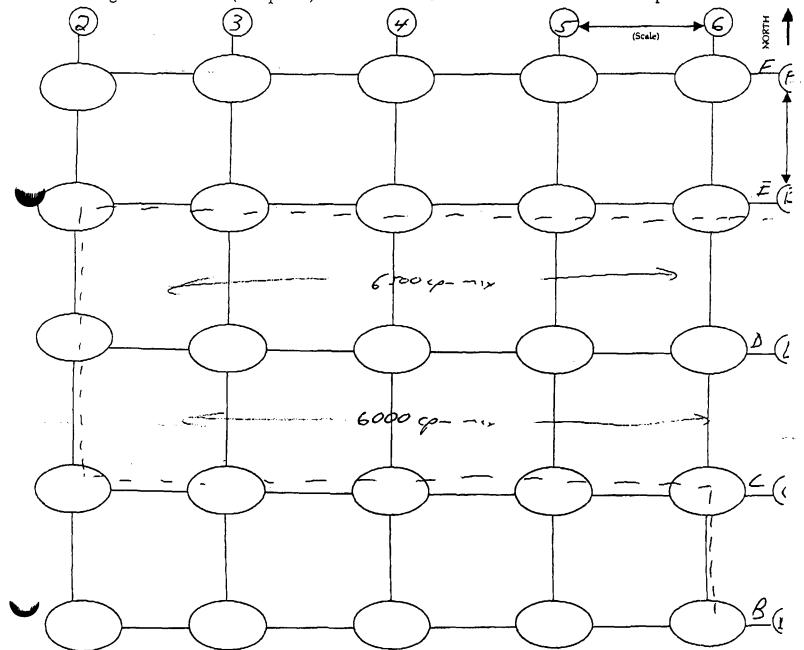
Technician L & Smith

Serial No. Meter 126496 Probe 168143

Lift Elevation Exclusion Dune Pre Epo

Action Level 6, 988 cpm

Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm.



### RADIATION SURVEY FORM

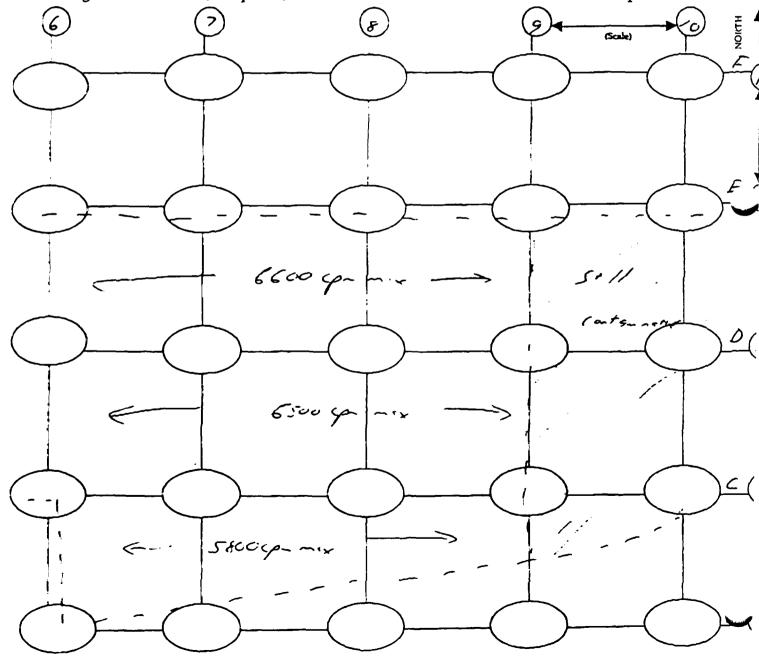
Project # 25585-XT Project Name GMO Page 3 of 2

STS Consultants, Ltd

Date	6/21/02	Technician <. 5-24
Inst. Model	L.JL_ 222/	Serial No. 126496 / 16843
Probe Type:	1'x1"Nal / 2"x2" Nal Shielded / Not Shielded	Lift Elevation Encluser 2 and Pr 279

Background := 00 - 4600 cpm Action Level 6988 cpm

Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm.



## RADIATION SURVEY FORM

Project # 25585-XI Project Name GMO Page 11 of 18

	Strate contains	. 1.1				
	Date 7	-25-02	· · · · · · · · · · · · · · · · · · ·	Technician	01	-Z
	Inst Model	Ludlum 222	ζ/	Technician 1 Serial No. 126	196 16819	, <b>€</b> ' 3
	Probe Type	Ux1"Na! (2 x2" N Shielded (Not Shi	al ielded	Lift Elevation	-45	<del></del> -
	Background,	44-84	cpm	Action Level	20,680	cpm
		=	•	unts for grid in cpm. I		counts
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(0)		OP	COP	(01)	(0,	P)45
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	15,80	0 10,5	100	1,300 /	, 400	
01		(4532)	6780	4301	7.3	24 B
		avated as exc	lusion Zone			<b>)</b> (

RADIATION SURVEY FORM Project # 25585-XI Project Name GMO Page 12 of 18 Technician 10 Lt.

Meter | Probe
Serial No. 126 496 | 168143 7-25-02 Inst Model Lablus 1221 Lift Elevation __________ Probe Type: 1'x1"Nal /2"x2" Nal Shielded Not Shielded Background 4k - 8k cpm Action Level 20,680 cpm Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm. (Scale) 41 82 16,800 8,900

9194) 4073

Mercevated as exclusion zone



ME Excevered as exclusion Zone

OP= OHel Page

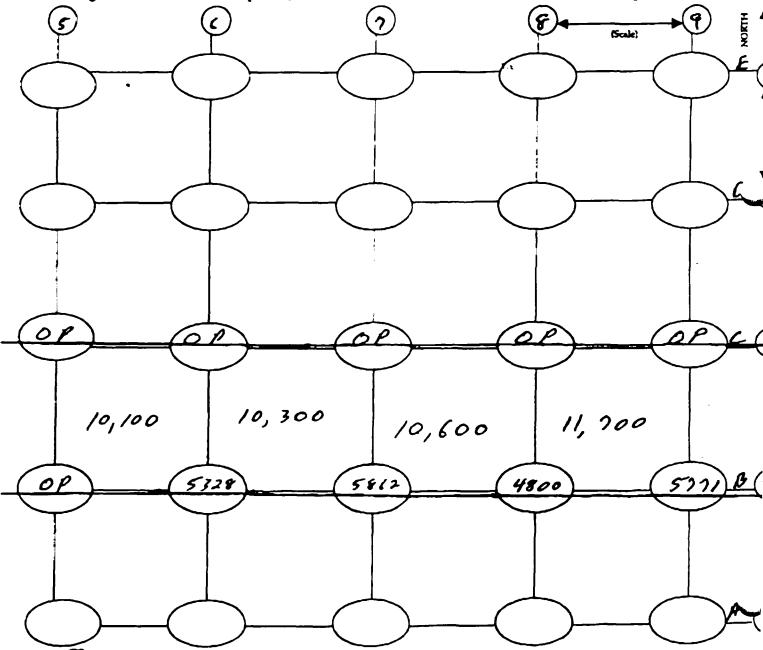
### RADIATION SURVEY FORM

Project # 25585-XI Project Name GMO Page 13 of 18 STS Consultants, Ltd. Technician 1 D Int.

meter | Probe

Serial No. 126496 | 168143 7-25-02 Date Inst. Model Ludlum 2221 Lift Elevation _____6 Probe Type: 1'x1"Nal /2"x2" Nal Shielded Not Shielded Action Level 20,680 cpm Background 44-84 cpm Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm. D OP 11,600 15,200 12,400 9,200 4908 4276 5311 4908

RADIATION SURVEY FORM Project # 25585-XI Project Name GMO Page 14 of 18 575 Consultants, Ltd. 7-25-02 Technician__ Metel
Serial No. 126496 168143 inst Model Ludlum 2221 Probe Type: 1'x1"Nal /2 x2" Nal Shielded Not Shielded Lift Elevation ____ Background 4k - 8k cpm Action Level 20, 680 cpm Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm. 7 (Scale)



M= Excavoted en exclusion zone of = Other Page

Project Name GMO Page 15 of 18 Project # 25585-XI 575 Consultants, Ltd. Technician 18 1 7-25-02 Date Serial No. 126496/168143 Inst. Model Lullum 2221 Lift Elevation ______ Probe Type: 1'x1"Nal /2"x2" Nal Shielded (Not Shielded Background 4k - 8k Action Level 20, 680 cpm ____ cpm Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm. 7,800 11,100  $\mathcal{B} \int$ 4621 41

DE = Excevate Tas exclusion Zone APS Other Page

- mass Poce

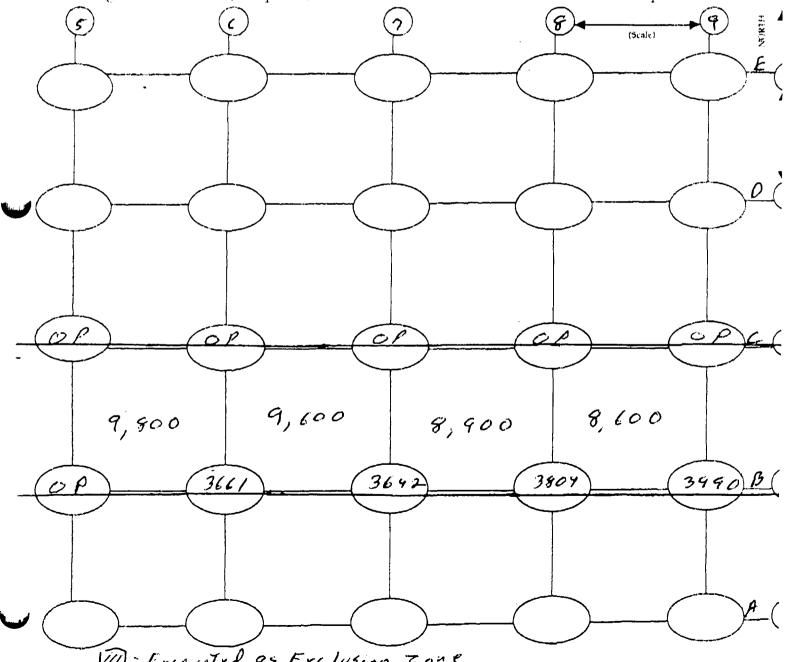
### RADIATION SURVEY FORM

Project Name GMO Page 16 of 18 Project # 25585-XI STS Consultants. Ltd. Technician 1 D lute Meter | Probe Serial No. 126496 | 168143 7-25-08 Date Inst. Model Ludlum 2221 Probe Type: 1'x1"Nal /2'x2" Nal Shielded Not Shielded Action Level 20,680 cpm Background 44-84 cpm Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm. (Scale) 7,400 9,200 6,800 8,200 3413) 3483 3301 4440 M: Excaveted as exlusion zone

Date

RADIATION SURVEY FORM Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Project Name GMO Projec Project # <u>25585-XI</u> STS Consultants, Lid 7-25-02 Inst. Model Ludlum 2221 Lift Elevation ____ 7,5" Probe Type: 1'x1"Nal 2x2" Nal Shielded Not Shielded Background 4k - 8k cpm Action Level 20, 680 cpm

Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm.



D : Excavated as Exclusion zone of-Other Page

Project Name GMO Page 18 of 18 Project # 25585-XI 575 Consultants Ltd.

Date

7-25-02

Inst. Model Ledlum 2221

Probe Type: 1'x1"Nal //2"x2" Nal

Shielded (Not Shielded

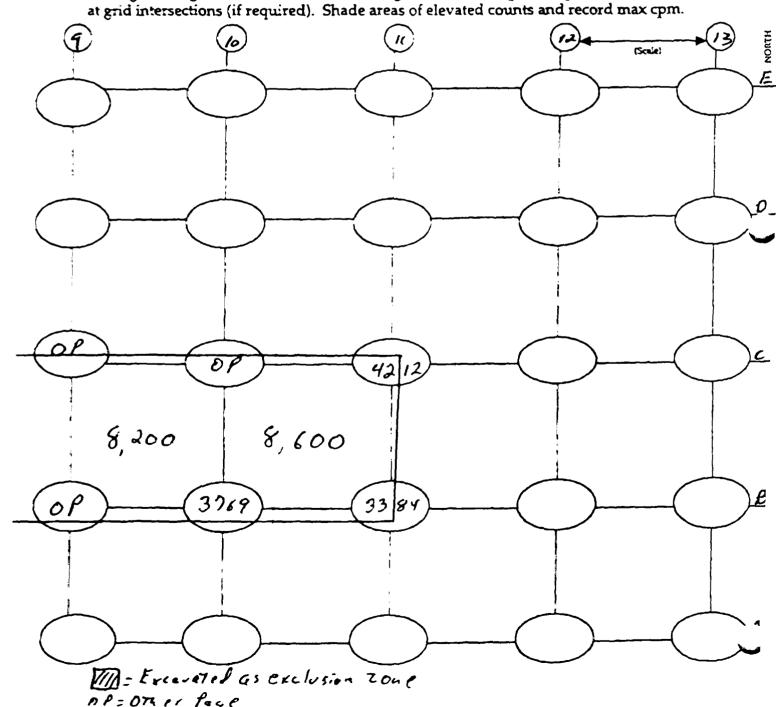
Background 4k - 8k

Technician 

Lift Elevation

Action Level 20.680 cpm

Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts



### RADIATION SURVEY FORM

Project # 25585-XI Project Name GMO Page / of 14

STS Consultants, Ltd.

Date 7-26-02

Inst. Model Ludlum 2221

Probe Type: 1'x1"Nal 2"x2" Nal

Shielded / Not Shielded

Background 24-10k cpm

Technician LD Smith

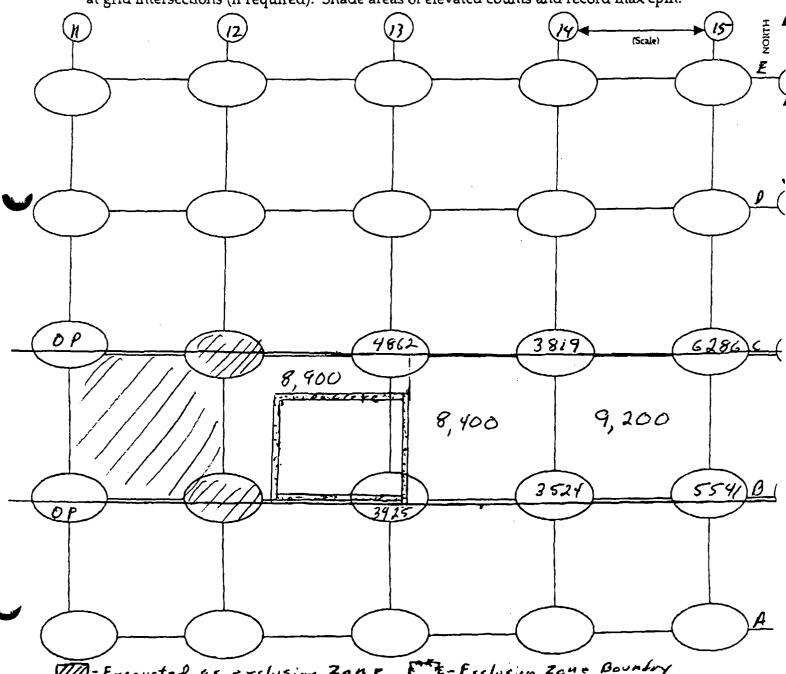
Meter | Probe

Serial No. 126496 | 168143

Lift Elevation 5 vrface

Action Level 20, 680 cpm

Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm.



D= Execusted as exclusion Zone F= Exclusion Zone Bounday

Project Name GMO Page 2 of 14 Project # <u>25585-XI</u>

STS Consultants, Ltd.

7-26-02

Technician 10 Smith

Meter Probe

Serial No. 126496 / 168143

Inst. Model Ludlum 2221

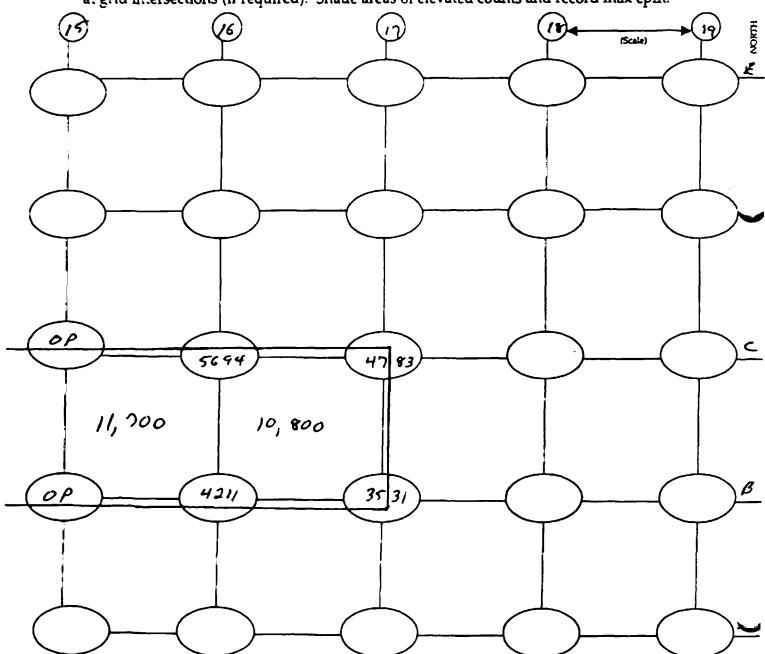
Probe Type: 1'x1"Nal 2'x2" Nal Shielded Not Shielded

Lift Elevation Sufface

Background 2 k - 10 k cpm

Action Level 20, 680 cpm

Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm.



Project Name GMO Page 3 of 14 Project # <u>25585-XI</u>

5TS Consultants, Ltd.

7-26-02

Inst. Model Lodlom 2221

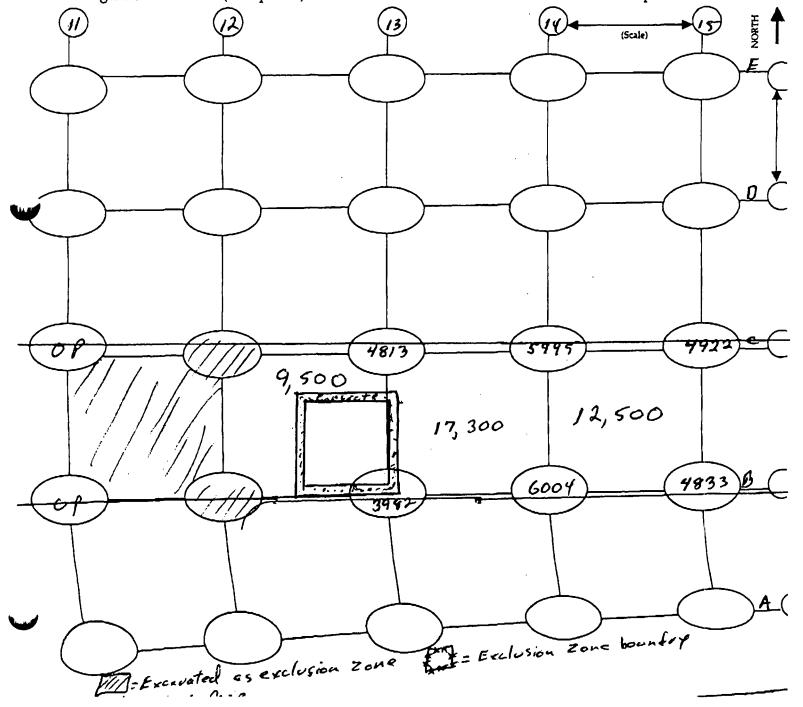
Probe Type: 1'x1"Nal 2"x2" Nal Shielded Not Shielded

Background 2 h - 10h cpm

Technician 1 D Sm. th meter | Proba Serial No. 126496 | 168143

Action Level 20680 cpm

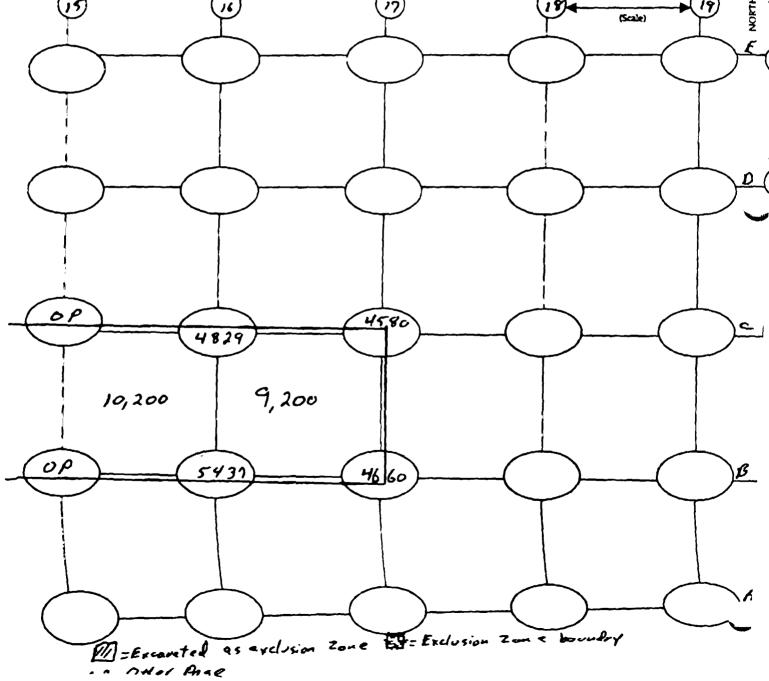
Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm.



RADIATION SURVEY FORM Project Name GMO Page 4 of 14 Project # 25585-XI 5YS Consultants, Ltd. Technician 1 B Smt.

Meter 1 Probe

Serial No. 126496 /168143 7-26-02 Inst Model Lullum 2221 Probe Type: 1'x1"Nal 2"x2" Nal Shielded Not Shielded Background 2 h- 10 h cpm Action Level 20 680 cpm Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm.



STS Consultants, Ltd.

#### RADIATION SURVEY FORM

Project # 25585-XI Project Name GMO Page 5 of 14

Date 7-26-02

Inst. Model Lud lum 2221

Probe Type: 1'x1"Nal / 2"x2" Nal

Shielded / Not Shielded

Background 2 k - 10k cpm

Technician <u>I D Smeth</u>

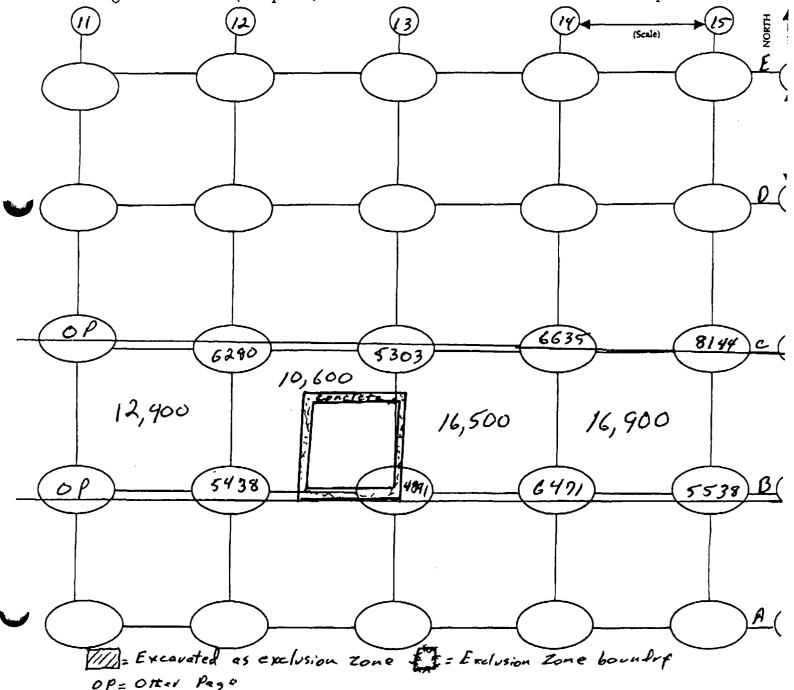
Meter Probe

Serial No. <u>126496</u> / 168143

Lift Elevation ____ - 3

Action Level 20,680 cpm

Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm.



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		Project # 25585-	-XI Project N	ame <u>GMO</u>	Page6	of <u>14</u>
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Date	· _ ?-;	26-02		Technician	10 Su	ith
Inst	Model Lu	Plum 2221		Technician		168143
Prol	oe Type: 1'x1' Shie	"Nal 2"x2" Nal lded / Not Shielded		Lift Elevation	-3'	
Bacl	cground2	k-10k	cpm	Action Level _	20,680	cpm
		ations in circles. Rec is (if required). Sha				
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## RADIATION SURVEY FORM

Project Name GMO Page 9 of 19 Project # <u>25585-X1</u>

STS Consultants, Ltd.

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7-26-02 Date

Technician 10 Smith

meter Proje

Serial No. 126496/168143

Inst Model Luffum 2221

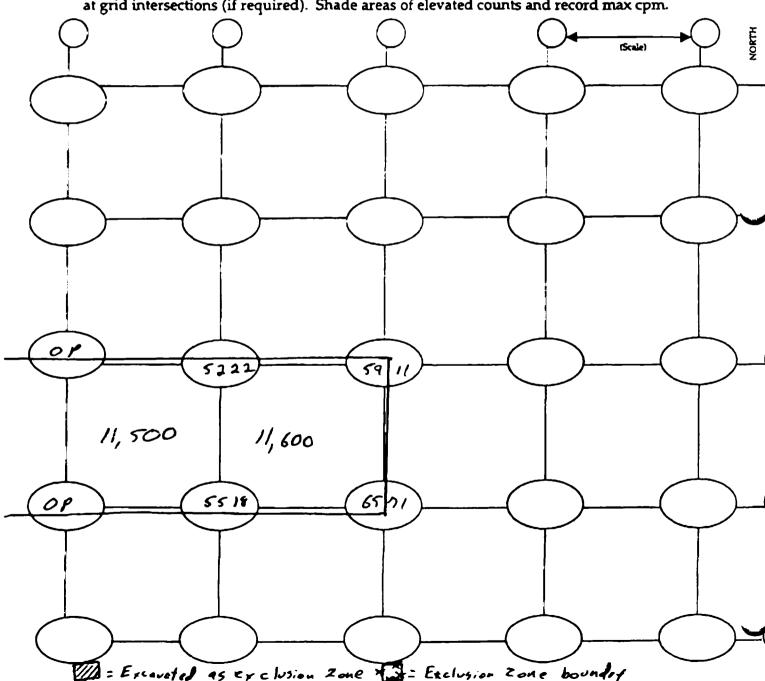
Probe Type: 1'x1"Nal 2"x2" Nal Shielded Not Shielded

Lift Elevation ____ 4.5

Background 2 h-10 k cpm

Action Level 20,680 cpm

Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm.

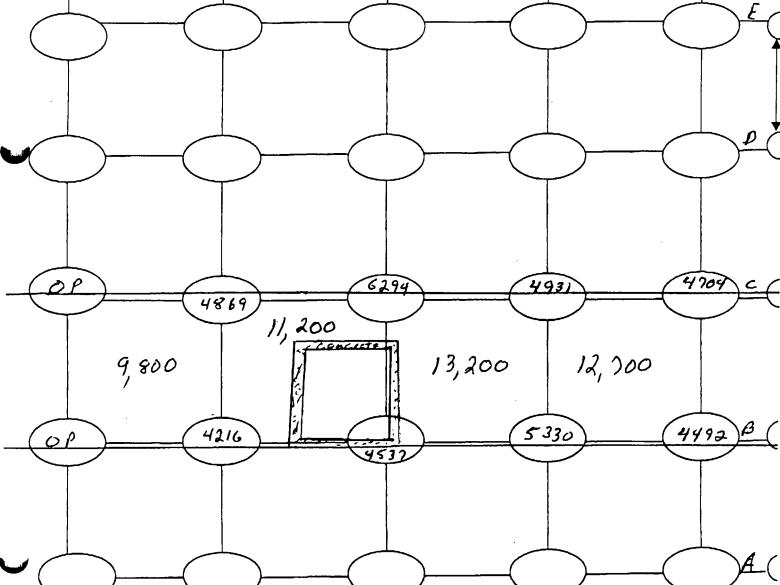


OP: Other Page

RADIATION SURVEY FORM Project Name GMO Page 7 of 14 Project # <u>25585-XI</u> STS Consultants, Ltd. Technician LD Smith

Meter Probe

Serial No. 126496/168143 7-26-02 Date Inst. Model Luflum 2221 Probe Type: 1'x1"Nal / 2"x2" Nal Shielded Not Shielded Lift Elevation ____ Background 2 h - 10 h cpm Action Level 20.680 cpm Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm. (Scale)



as exclusion zone = Enclusion Zone boundry

Project Name GMO Page 10 of 14 Project # <u>25585-XI</u>

Date 7-26-02

Inst. Model Lullum 2221

Probe Type: 1'x1"Nal 2"x2" Nal Shielded Not Shielded

Background 2k-10k cpm

Technician ID Smith

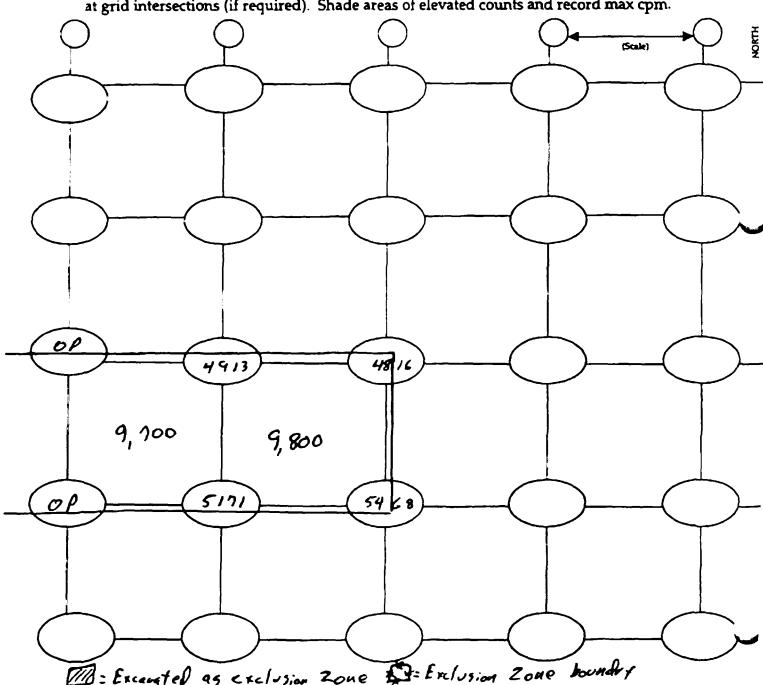
Me Ter Probe

Serial No. 126496/168/43

Lift Elevation

Action Level 20680 cpm

Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm.



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Project Name GMO Page 11 of 14 Project # <u>25585-XI</u>

STS Consultants, Ltd.

7-26-02 Date

Inst. Model Ludlum 2221

Probe Type: 1'x1"Nal 2"x2" Nal Shielded Not Shielded

Background 24-104 cpm

Technician LB Smith

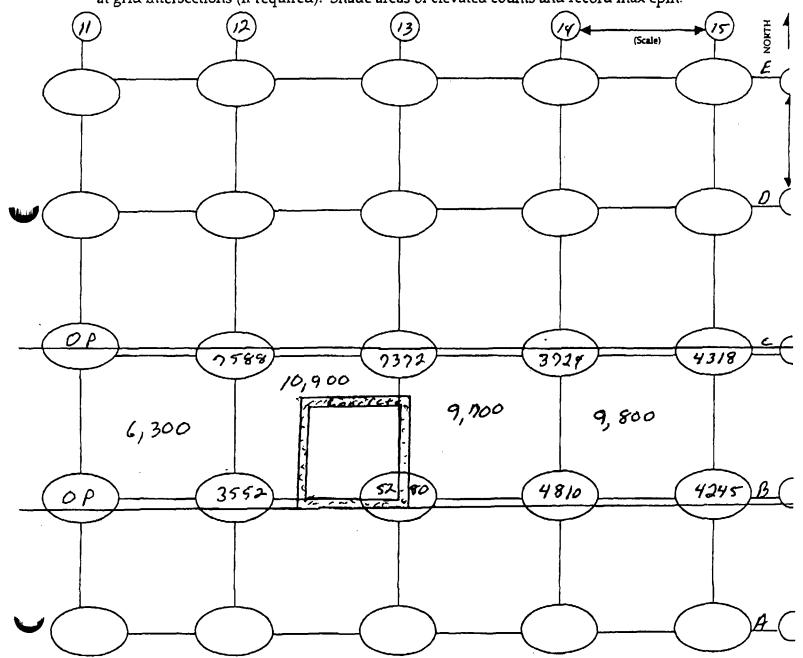
Meter Probe

Serial No. 126496/168143

Lift Elevation _____7_5

Action Level 20,680 cpm

Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm.



Project Name GMO Page 12 of 14 Project # 25585-XI

575 Consultants, Ltd.

7-26-02 Date

Inst. Model Ludlum 2221

Probe Type: 1'x1"Nal /2"x2" Nal Shielded Not Shielded

Background 2 h - 10 k cpm

Technician ID Smith

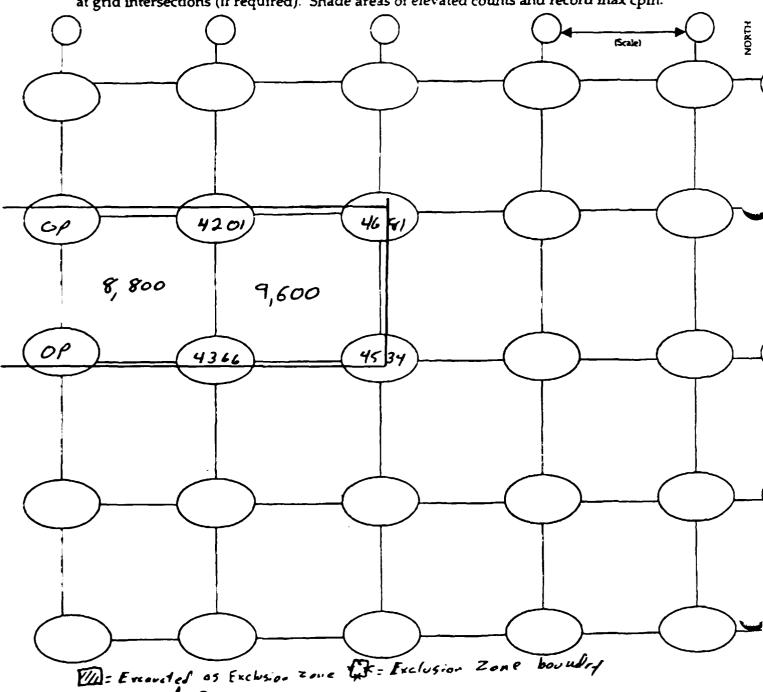
meter Mrabe

Serial No. 126496/168143

Lift Elevation __ 2_5

Action Level 20, 680 cpm

Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm.



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#### RADIATION SURVEY FORM

Project # 25585-XI Project Name GMO Page 13 of 14

5TS Consultants, Ltd.

Date 7-26-02

Inst. Model Ludlum 2221

Probe Type: 1'x1"Nal / 2"x2" Nal

Shielded / Not Shielded

Background 2 h - 10 h cpm

Technician LD Smith

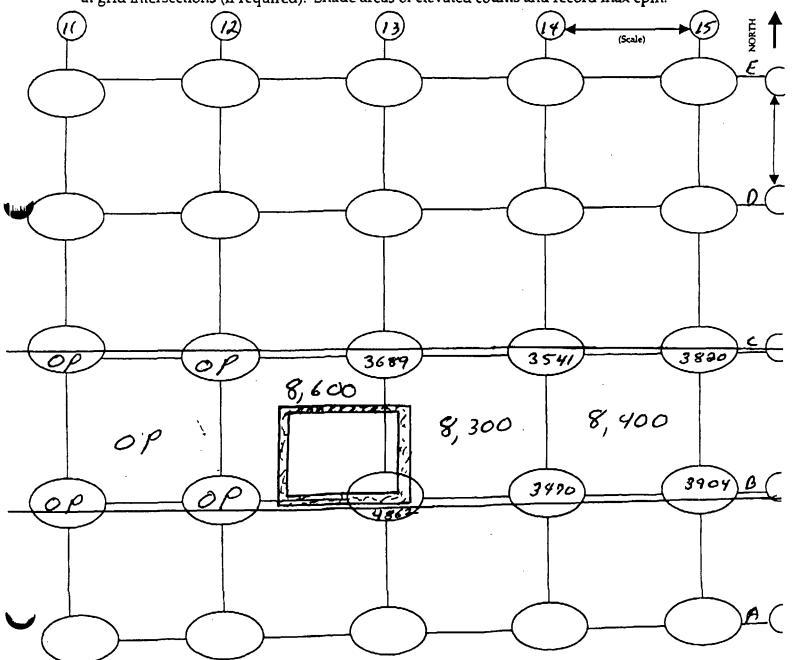
Meter Probe

Serial No. 126496/ 168143

Lift Elevation _____9

Action Level 20680 cpm

Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm.



Project Name GMO Page 14 of 14 Project # 25585-X1

STS Consultants, Ltd.

7-26-02 Date

Inst. Model Lullum 2221

Probe Type: 1'x1"Nal 2"x2" Nal Shielded Not Shielded

Background 2 k-10k

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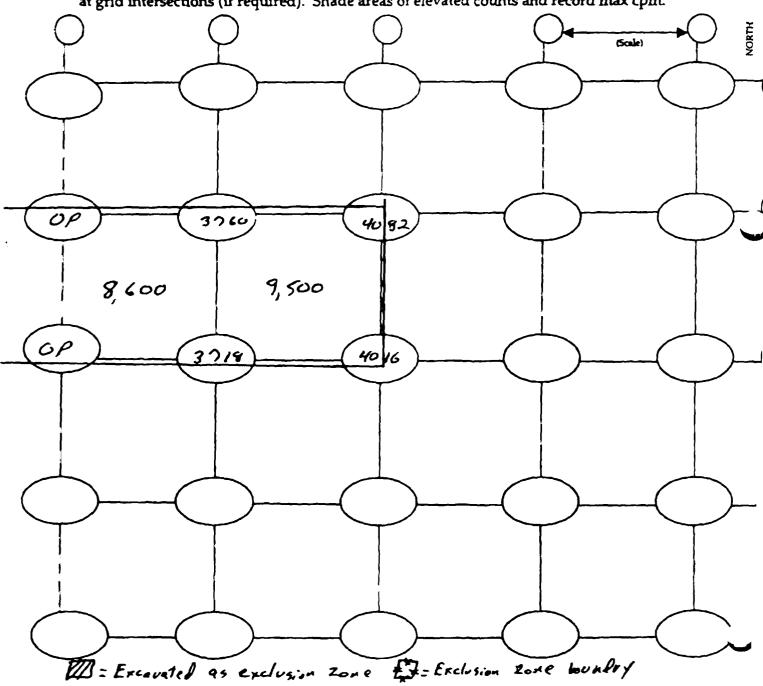
METER Pro68

Serial No. 126496/168143

Lift Elevation ___ 9

Action Level 20 680 cpm

Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm.



OP = Otter Page

RADIATION SURVEY FORM Project Name GMO Page / of 6 Project # <u>25585-XI</u> STS Consultants, Ltd. Technician 10 d to 10 Serial No. 126496 168143 7-29-02 Date Inst. Model Ludlum 2221 Lift Elevation Surface Probe Type: 1'x1"Nal /2"x2" Nal Shielded Not Shielded Background 2 h - 6 k cpm Action Level 20,680 cpm Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm. (18) (Scale)

2660 3020 00 3283 4,900 5,200 1,000 6,200 2104 2380 OP 2842 3869

OP= Other Page

RADIATION SURVEY FORM Project # 25585-XI Project Name GMO Page 2 of 6 STS Consultants, Ltd. Technician 10 S. M.

McTer, Proba

Serial No. 126496 168143 7-29-02 Inst Model Lodlon 2221 Probe Type: 1'x1"Nal 2"x2" Nal Shielded / Not Shielded Action Level 20,680 cpm Background 2 h - 6 h cpm Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm. (19) (Scale) 3521 2019 23 50 2890 5,600 5,100 6,200 6,300 3301

2824 2872 2396

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#### RADIATION SURVEY FORM

Project Name <u>GMO</u> Page <u>3</u> of <u>6</u> Project # <u>25585-XI</u> STS Consultants, Ltd. Technician <u>LD L. The</u>

meter Probe

Serial No. 126496/168143 7-29-02 Inst. Model L-dlog 2221 Lift Elevation _____3' Probe Type: 1'x1"Nal /2'x2" Nal Shielded Not Shielded Background 2-k-6k cpm Action Level 20, 680 cpm Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm. (Scale) 3888 7,500 7,200 4,800 7,100 3429 32 16 2614 of 3192

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#### RADIATION SURVEY FORM

Project # 25585-XT Project Name GMO Page 4 of 6 STS Consultants, Ltd. Technician 10 Smith meter Proba
Serial No. 126496/168143 1-29-02 Date Inst. Model Lud /um 2221 Lift Elevation ___ Probe Type: 1'x1"Nal / 2"x2" Nal Shielded / Not Shielded Action Level 20 680 cpm Background 2h-6h cpm Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm. (Scale) 2830 6, 300 6,800 6,200 9,600 2504 3691 3767 2768 0

Project Name GMO Page 5 of 6 Project # <u>25585-XI</u>

STS Consultants, Ltd.

7-29-02 Date

Inst. Model Ludlum 2221

Probe Type: 1'x1"Nal / 2"x2" Nal

Shielded / Not Shielded

Background 2 t - 6 t cpm Action Level 20,680 cpm

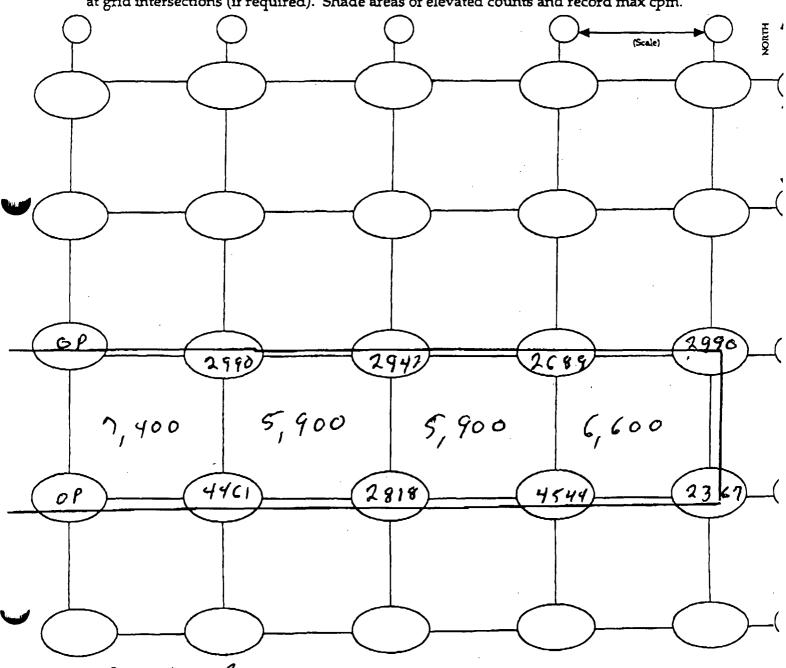
Technician 1 5 Smith

Meter Probe

Serial No. 126496/168143

Lift Elevation _____6

Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm.



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	Project # 25585-XI	Project Name GMC	) Page <u></u>	of
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Date	7-29-02	Technicia	10 S	th
inst. Model	Laston 2221	Serial No.	126496 /	168193
Probe Type:	1'x1"Nal /2 x2" Nal Shielded Not Shielded	Lift Elevat	tion	5'
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#### RADIATION SURVEY FORM

Project Name <u>GMO</u> Page of Project # <u>25585-XI</u> 7-31-02 Technician Justin Hubbert model# Probe # Inst. Model Ludlum 9991 Serial No. 132844 168148 Lift Elevation Pre EPA Probe Type: 1'x1"Nal (2"x2" Nal Shielded \Not Shielded Action Level <u>a0,909</u> Background 5-10 Kcpm cpm Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm. 18, max court unshierodd

1 - Exclusion Zone

	Project # <u>25585-XI</u>	Project Nat	me GMO	Page( o	f <u> </u>
STS Consultants.	•	,		in O'Srien Fo	
Date	8-1-02		Technician	Leonard Smith	\
Inst. Model	Ludlum 2221		Serial No. 126	Leonard Smith stuff   Piobel 496   [6814.	3
Probe Type:	1'x1"Nal/2"x2" Nal Shielded / Not Shielded		Lift Elevation _	Are EPA	
Background	3k-6K	_ cpm	Action Level	20,680	cpm
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### RADIATION SURVEY FORM

Project Name GMO Page / of /8 Project # <u>25585-XI</u> STS Consultants, Ltd. Technician £ & Smith meter # 168143

Serial No. 126496 168143 7-30-02 Date Inst. Model Ludlum 2221 Lift Elevation Surface Probe Type: 1'x1"Nal 2"x2" Nal Shielded Not Shielded Background 6K-124 cpm Action Level 20, 680 cpm Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm. (Scale) 33 92 354 OF 7,800 36/87 4920 OP OP= OMET Pase = Exclusion zone boundary

Project # 25585-XI Project Name GMO Page 2 of 18

STS Censultants, Ltd.	
Date 7-30-02	Technician 10 Smith
Inst. Model Ludlum 2221	Serial No. 126496 168143
Probe Type: 1'x1'Nal 2"x2" Nal Shielded Not Shielded	Lift Elevation Surface
Background 6 h - 12 h cpm	Action Level 20,680 cpm
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OP) 4862	
8,800	
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Project # 25585-XI Project Name GMO Page 3 of 18 STS Consultants, Ltd. Technician ZD Smill meter # 1000c # Serial No. 126496 168143 7-30-02 Date Inst. Model Ludlum 2221 Lift Elevation Surface Probe Type: 1'x1"Nal 2"x2" Nal Shielded Not Shielded Background 6 h - 12 h cpm Action Level 20,680 cpm Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm. Excavated as Exclusion Zone OP= Omer Page

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CA	Project # 25585-XT	Project Name	GMO	Page4_ of	18
STS Consultants, Ltd.  Date	- 30-02	Te	chnician á	& D South	1
	11 Jun 2221	Se	merial No. 12	1 D Smit 40 # 1 600 C 496 168	143
Probe Type: 1'>	cl"Nal / 2"x2" Nal ielded / Not Shielded			-1.5	
Background	6 K-12 K	_ cpm Ac	tion Level	20,680	_ cpm
	nations in circles. Record I ons (if required). Shade ar				d count
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Project Name GMO Page 5 of 18 Project # <u>25585-XI</u> STS Consultants, Ltd. Technician II Inch mater # Frobe # Serial No. 126496 168143 7-30-02 Inst. Model Ludlum 2221 Probe Type: 1'x1"Nal /2 x2" Nal Shielded / Not Shielded Action Level 20,680 cpm Background 6 k - 12 k cpm Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm. 9,800 4263 01 10,200 4512

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	Project # _255 85-X1	Project Na	ame <u>GMO</u>	Page <u></u>	/8
STS Consultants, Ltd					<b>v</b>
Date	7-30-02		Technician	D.S.	ic 4
Inst. Model 🗘	udlum 2221	<del></del>	Technician	196 168	3143
Probe Type: 1	'x1"Nal /2"x2" Nal "Shielded Not Shielded		Lift Elevation	-1.5	
Background	6 K-12 K	cpm	Action Level	20,680	_ cpm
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	Project # <u>25585-XI</u>	Project Name GMO	Page _ 7 _ of _ 18
STS Consultants,	7-30-02	Technician	I D Smith
<del></del>	Ludlum 2221		126496 168143
	1'x1"Nal / 2"x2" Nal Shielded Not Shielded	Lift Elevation	
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	esignations in circles. Record bections (if required). Shade are		
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	Project # 25585-XI	Project Name G 10	Page 01 / 0
STS Consultants.	Ltd.	•	
Date	9-30-02	Technician	Mater # Probe #
Inst. Model	Ludlum 2221	Serial No	125496 168/43
Probe Type:	1'x1'Nal /2 x2" Nal Shielded / Not Shielded	Lift Elevati	on
Background	6 K-12K	_ cpm Action Leve	el 20,680 cpm
	esignations in circles. Record bections (if required). Shade are		
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#### RADIATION SURVEY FORM

Project # 25585-XI Project Name GMO Page 9 of 18 STS Consultants, Ltd. 7-30-02 Inst. Model Ludlum 2221 Probe Type: 1'x1"Nal / 2"x2" Nal Shielded Not Shielded Lift Elevation _ Action Level 20,680 cpm Background 6 th - 12 th cpm Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm. (Scale) Excavated as Exclusion Zone OP= OMEr fose = Exclusion zone Loundry

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	STS Consultants.					
	Date	7-30-02		Technician	ID Sugar	The H
	Inst. Model	Ludlum 222	1	Serial No/	26 496 1 16	8143
	Probe Type:	1'x1'Nal / 2'x2" Na Shielded Not Shie	l' elded	Lift Elevation	- 4-5	<del></del>
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	Write grid de at grid inters	esignations in circles. ections (if required).	Record highest cou Shade areas of elevi	ints for grid in cprated counts and re	n. Record 30 seco cord max cpm.	nd count
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#### RADIATION SURVEY FORM

Project Name GMO Page 1/ of 18 Project # <u>25585-XI</u> STS Consultants, Ltd. Technician LD Smith meter # 100 be # Serial No. 126496 168(43 7-30-02 Date Inst. Model Ludlum 2221 Lift Elevation ____ 4-5 Probe Type: 1'x1"Nal /2"x2" Nal Shielded / Not Shielded Background 6t - 12t cpm Action Level 20,680 cpm Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm. (Scale) OP 8,400 4183 4329 8,200 9,900 4875 Excavated as Exclusion Zone OP= OMer Exclusion Zone bounday

	Project # <u>25585-X</u>	Project N	Name GMO	Page _1 < of _1	<u> </u>
5TS Consultante	Ltd.				
Date	7-30-02		Technician Z	1 Smile 1496 16819	<u> </u>
Inst. Model	Ludlum 2221				13
Probe Type:	1'x1"Nal /2"x2" Nal Shielded / Not Shielded	`	Lift Elevation	-4-5	
Background	CK-12K	cpm	Action Level	20,680	cpm
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#### RADIATION SURVEY FORM

Project Name GMO Page 13 of 18 Project # 25585-XI STS Consultante, Ltd. Technician ID Smill mater # 1 Prote 1-30-02 Date Serial No. 1264961 Inst. Model Ludlum 2221 Lift Elevation Probe Type: 1'x1"Nal /2"x2" Nal Shielded / Not Shielded 6 K-12K Action Level 20,680 cpm ____ cpm Background___ Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm. (Scale) 4718 5066 OP 39 60 11,200 12,000 10,000, 39114 4839 OP 12,500 9,200 9,800 35 28 4635 OP

OP= OMET

Exclusion Zone boundry

	Project # 25585-XI	Project Name GMO	Page 14 of 18
STS Consultants. I	Lad		
Date	7-30-02	Technician	20 Shill
Inst Model	Ludlum 2221		12 Smith mater# Prote # 12 C 496 168143
Probe Type:	1'x1"Nal 2"x2" Nal Shielded Not Shielded	Lift Elevation	on
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	Project # <u>25585-XI</u>	Project Na	me GMO	Page	of <u>18</u>
STS Consultants, 1	1-30-02		Tachnician	I D La	·ll
<u></u>	Ludlum 2221	<del></del>	Serial No. 62	ID Sn eter# 1900 16496 16	8142
	1'x1"Nal /2'x2" Nal			-6'	
	Shielded Not Shielded			·	
Background_	6 K-12 K	_ cpm	Action Level _	20,860	cpm
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		Project # <u>25585-XI</u>	Project Name <u>GMO</u>	Page _/6 of _/0
	575 Consultants. I	Lad.		_
	Date	7-30-02	Technician	126496 168143
	Inst. Model	Ludlum 2221	Serial No	126496 168143
	Probe Type:	1'x1"Nal / 2"x2" Nal Shielded / Not Shielded	Lift Elevati	on
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		esignations in circles. Record lections (if required). Shade ar		
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		Project # <u>25585-XI</u>	Project Name _GMO	Page 17 of 18
/	STS Consultants, L	•		AA 1 -71
	Date	1-30-02	Technician	meter # Probe #
	Inst. Model _	Ludlum 2221		126496 168143
	Probe Type:	1'x1"Nal / 2"x2" Nal Shielded Not Shielded	Lift Elevat	ion
	Background_	6x-125	_ cpm Action Lev	rel 20,680 cpm
		signations in circles. Record l ections (if required). Shade ar		cpm. Record 30 second counts d record max cpm.
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#### RADIATION SURVEY FORM

Project Name GMO Page 18 of 18 Project # 25585-XI Technician LD 7-30-02 Date Serial No. 12 C 49 C Inst. Model Ludlum 2221 Probe Type: 1'x1"Nal / 1 x2" Nal Shielded / Not Shielded Lift Elevation Action Level 20,680 cpm 6 k - 12 k Background_ Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second count at grid intersections (if required). Shade areas of elevated counts and record max cpm. (Scale) 4481 9,300 3692 9,400 3813 OP= OMET = Exclusion Zone bounday



	Project # <u>25585-XI</u>	Project Na	me_GMO	Page of	6
STS Consultants, Ltd.	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		•		
Date	-31-02		Technician	20 S	TL.
Inst. Model 🗘	11 Jun 2221	·	Serial No. 126	5496 16	8143
Probe Type: 1': Sh	x1"Nal /2"x2" Nal uielded / Not Shielded		Lift Elevation	Surface	<del></del>
Background	34-84	_ cpm	Action Level	20,860	_ cpm
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	Project # _255 BS-XI	Project Na	me <u>GMO</u>	Page of	6
575 Consultants, Ltd.	·			-	
Date 7	71-02	<del></del>	Technician Le	anard Smith	
Inst. Model 🚣	11um 2221		Technician Le me serial No.	er #	
	:1"Nal / 2"x2" Nal ielded / Not Shielded		Lift Elevation	-1-5'	<del></del>
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	Project # 25585-XI	Project Nan	ne <u>GMO</u>	Page	3 of	6
STS Consultants, Ltd.  Date	7-31-02		•	126496 0n F 1		
Inst. Model 🗘	11/m 2221		Serial No	126496	168	143
Probe Type: 1's Sh	c1"Nal / 2"x2" Nal pielded / Not Shielded		Lift Elevation	on	<b>3</b> /	<del></del>
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	Consultanes, Ltd.	•	-			
Date	e	31-02		Technician	L D Sn ter# 100 26496 16	be #
Inst	. Model Lus	11um 2221				_
Prol	be Type: 1'x1 Shie	"Nal 2"×2" Nal lided Not Shielded		Lift Elevation _	-4.5	
Bacl	cground	3 t 8 t	cpm	Action Level	20,680	_ cpm
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	Project # <u>2558S-XI</u>	Project NameC	3 MO	Page _ s of	6
	7-31-02 Ludlum 2221	Tech	nician 12 mete 1 No. 126	0 d 2 496 168	143
	1'x1"Nal /2"x2" Nal Shielded / Not Shielded		Elevation		
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#### RADIATION SURVEY FORM

Project Name GMO Page 6 of 6 Project # 25585-XT Technician 20 Smith motor # Probe # Serial No. 126496 168143 7-31-02 Date Inst. Model Ludlum 2221 Probe Type: 1'x1"Nal / 2"x2" Nal Shielded / Not Shielded Action Level 20,680 cpm Background 3k-8k cpm Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm. (Scale) 3314 385 360 8,200 7,600 OP Excavated as Exclusion Zone Of= OMET Pase

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### RADIATION SURVEY FORM

Project # 25585-XI Project Name GMO Page of 6

STS Consultants, Ltd.

Inst. Model LuDlum dadl

Probe Type: 1'x1"Nal 2"x2" Nal
Shielded Not Shielded

Background 5-10 Kcpm cpm

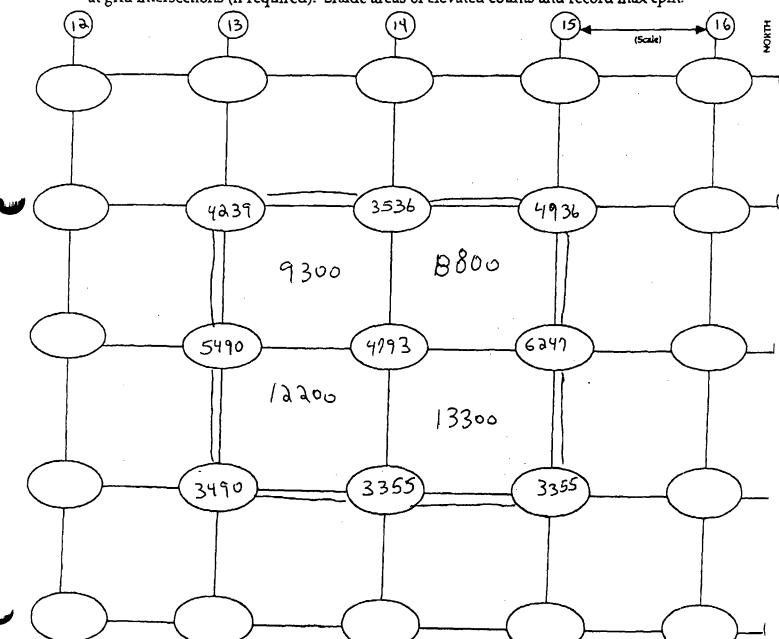
Technician Justin Hubbert

Mooil # PROCE #

Serial No. 127242 168144

Lift Elevation Surface

Action Level 31072 cpm

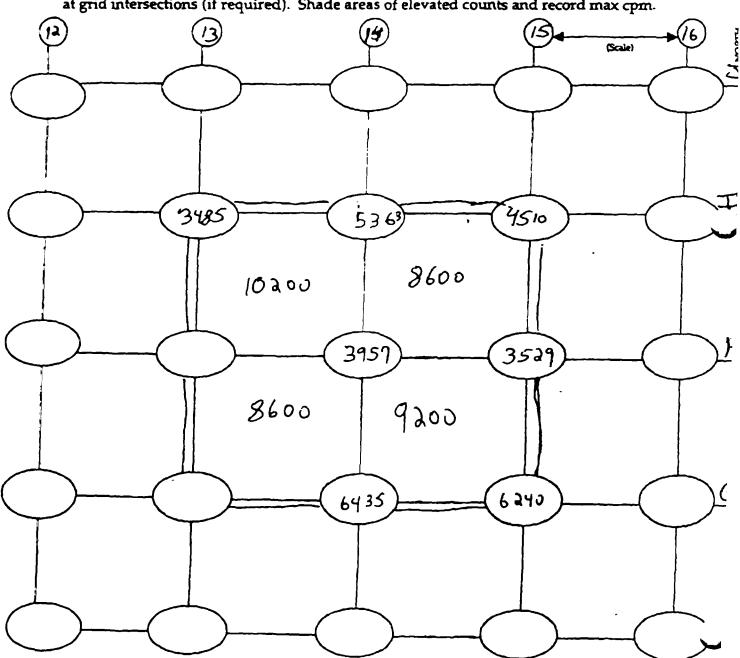


#### RADIATION SURVEY FORM

Project # 25585-XI Project Name GMO Page 2 of 6 STS Consultants, Ltd. Technician Justin Aubbern Seen # PRUBE#F 8-9-03 Date Inst. Model Liplum 2221 Serial No. 127242 168144 

Probe Type: 1'x1"Nal /2"x2" Nal Shielded / Not Shielded

Background_5-10K ___cpm Action Level <u>21,07a</u>



#### RADIATION SURVEY FORM

Project Name GMO Page 3 of 6 Project # <u>25585-XI</u>

STS Consultants, Ltd.

8-2-02 Date

Luplum 2221 Inst. Model _

Probe Type: 1'x1"Nal / 2"x2" Nal Shielded / Not Shielded

5-10K Background_

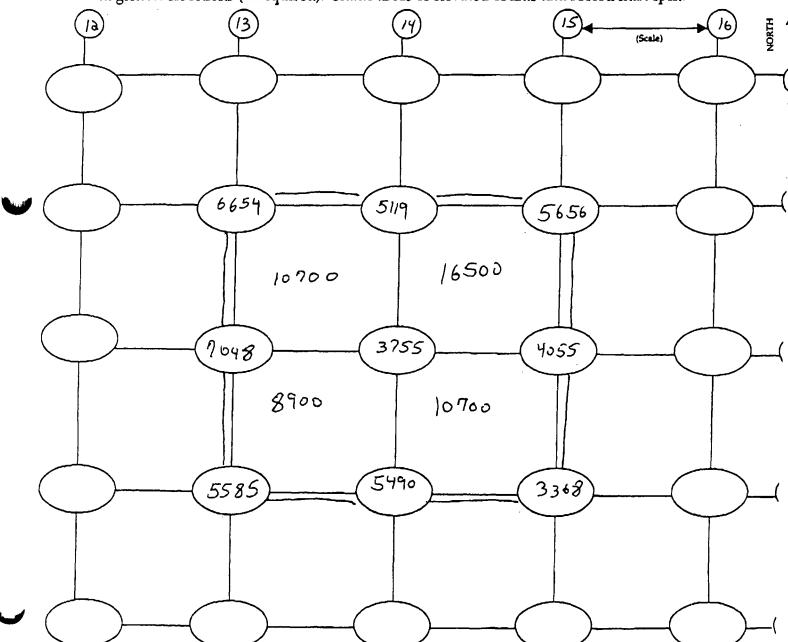
Technician JUSTIN HUBBERT

MODEL # PROSE # 168144

Serial No. 1. 2 7 242 168144

-3 Ft Lift Elevation

Action Level 21,072 cpm



## **E3**

#### RADIATION SURVEY FORM

Project # 25585-XI Project Name GMO Page 4 of 6

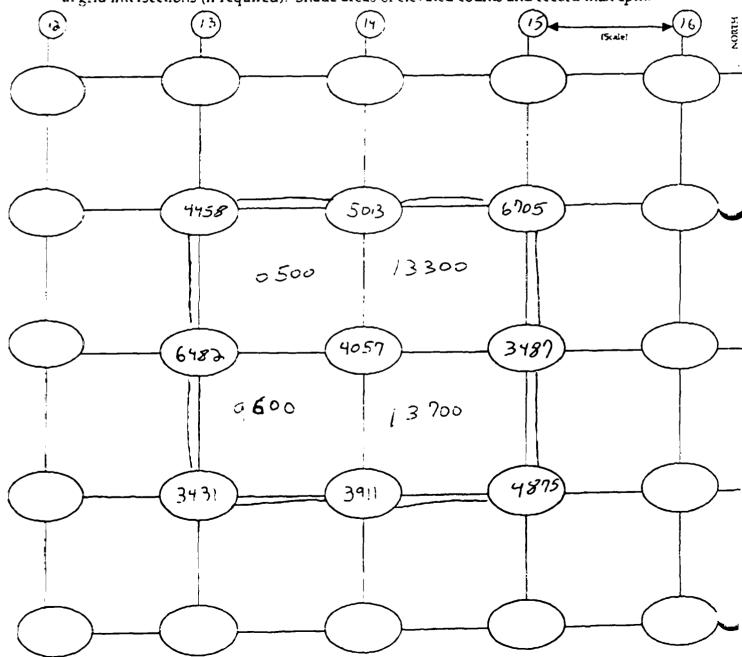
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Date 8-2-02 Technician Justin Hubbert

Serial No. 127242 168144

Probe Type: 1x1"Nal (2"x2" Nal Shielded V Not Shielded

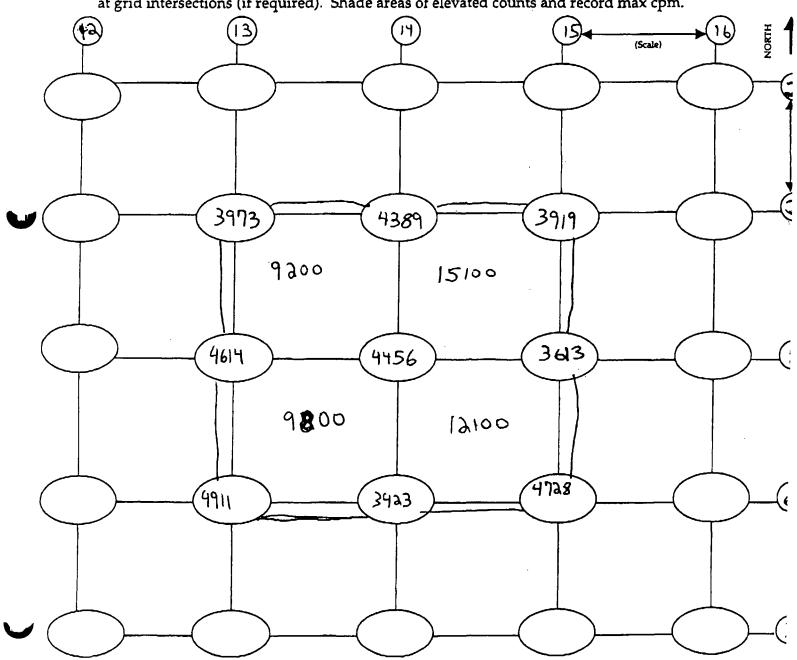
Background 5-10 K cpm Action Level 21,072 cpm



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#### RADIATION SURVEY FORM

Project Name <u>GMO</u> Page <u>S</u> of <u>6</u> Project # <u>25585-XI</u> STS Consultants, Ltd. Technician Justin Hubbert
MORIH PROPER 8-9-03 Date Luolum 2221 168144 Serial No. 127242 Inst. Model __ BURGARY - 6 Ft Probe Type: 1'x1"Nal /2"x2" Nal Lift Elevation _ Shielded / Not Shielded Action Level <u>d1,072</u> cpm 5-10K Background_ cpm



#### RADIATION SURVEY FORM

Project # 25585-XI Project Name GMO Page 6 of 6

STS Consultants. Ltd.

Date 8-3-02 Technician Justin Hubbert

SCRIAL # PROBE#

Inst. Model Lunium ddd | Serial No. 187842 168144

Probe Type: 1'x1"Nal (2'x2"Nal Lift Elevation -7.5

Shielded Not Shielded

Background 5-10 K cpm Action Level 31,073 cpm

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		Project # <u>25585-XI</u>	Project Na	me GMO	Page	of <u>6</u>
	STS Consultants,	•			108	H
	Date	8-1.02		Technician me Serial No/ A	ter# Pro	de B
	Inst. Model	Ludlum 2221	<del></del>	Serial No. 12	6496 1 /6	8 743
	Probe Type:	1'x1"Nal / 2"x2" Nal Shielded / Not Shielded		Lift Elevation _	Suffece	·
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Inst. Model	dlum 2221		Serial No. 12	6496 16	8493
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		Ludlum 2221		m	76496 16	96. 4F
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	STS Consultants,			
	Date	8-1.02	Technician_	notes #   Probe #
	Inst. Model	Ludlum 2221	Serial No	26496 /68493
	Probe Type:	1'x1"Nal / 2"x2" Nal Shielded / Not Shielded	Lift Elevation	-4.5'
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	Inst. Model _	Ludlum 2221		Technician	6496 168	7 493
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	Date	8-1-0	2		Technician_	10-	Smil	2
	Inst. Model	Ludlum 2	221	<del></del>	Serial No/	26496	168	493
	Probe Type:	1'x1"Nal 2"x2 Shielded Not	"Nal Shielded		Lift Elevation	7	.5'	
	Background_	2K-5	<u>t</u>	cbw	Action Level	20,	680	. cpm
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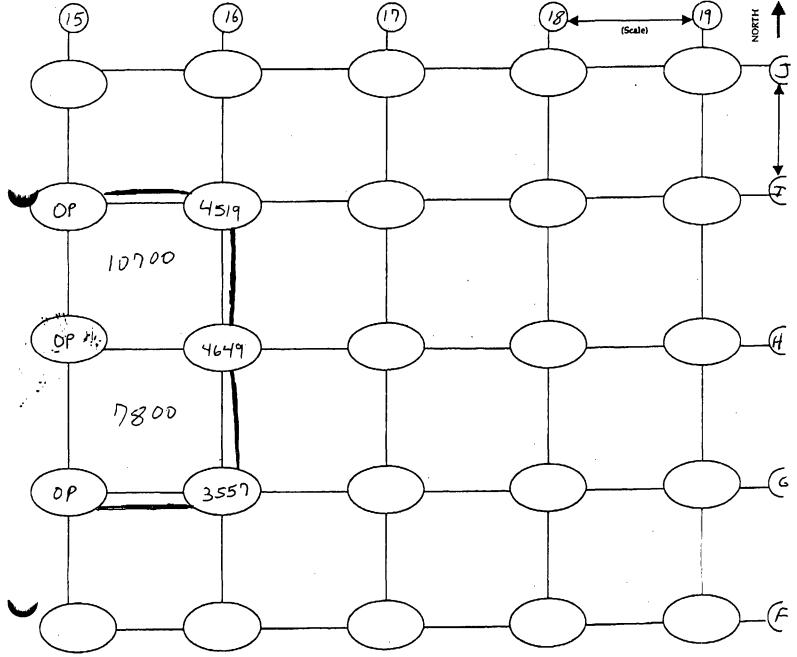
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	1'x1"Nal / 2"x2" Nal Shielded L Not Shielde		Technician Z  Serial No. 126  Lift Elevation P	re EPA	
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STS Consultants.	<u>•</u>			~	
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Inst Model	Ludlum 2221	<del></del>	Serial No. 12	1 D Sin ter# 100 6 996 168	7/13
Probe Type:	1'x1"Nal / 2"x2" Nal Shielded / Not Shielded		Lift Elevation _	Pre EP	4
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#### RADIATION SURVEY FORM

Project Name _GMO ____ Page ____ of ____ Project # <u>25585-XI</u> STS Consultants, Ltd. Technician Justin Hubbert

Meter Probe
Serial No. 126496 168143 Date _ 8-7-02 Inst. Model Luctum 2221 Lift Elevation Surface Probe Type: 1'x1"Nal / 2"x2" Nal Shielded / Not Shielded Background_5-10K Action Level 20,680 cpm ____ cpm Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm.





#### RADIATION SURVEY FORM

Project # 25585-XI Project Name GMO Page of

575 Consultants. Ltd.

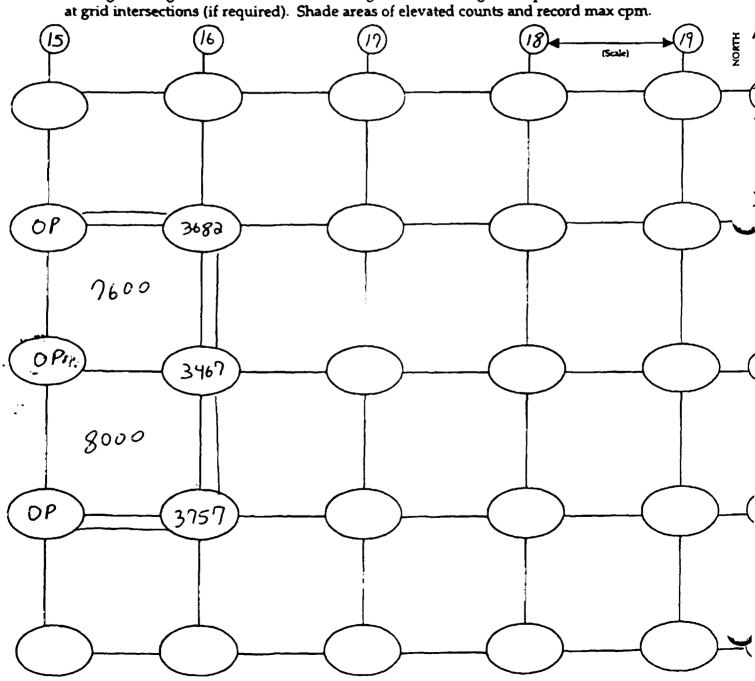
Date 8-7-02 Technician Justin Hobbert

Meter PAOSE

Inst. Model Luplum 2d21 Serial No. 126496 168143

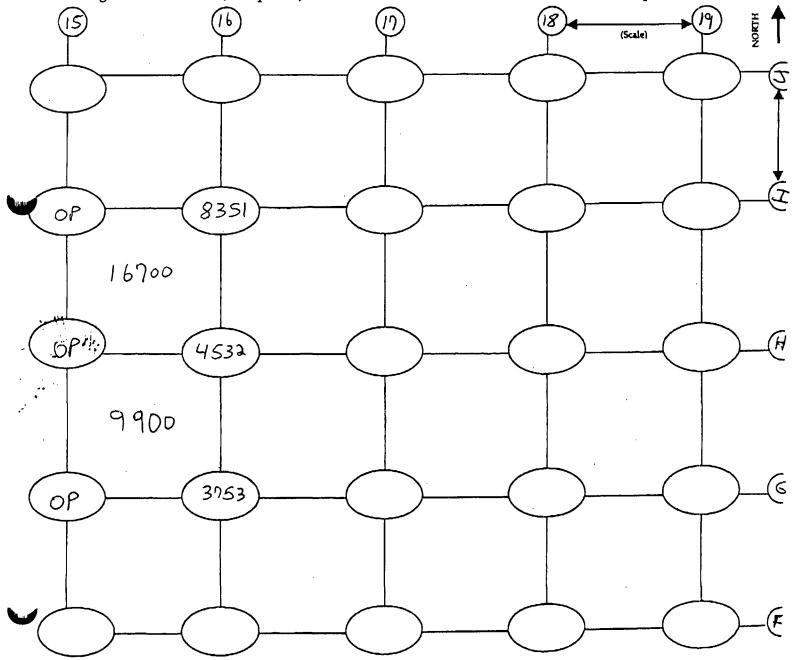
Probe Type: 1'x1"Nal /2"x2" Nal Shielded Not Shielded

Background 5-10 K cpm Action Level 20,680 cpm



#### RADIATION SURVEY FORM

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STS Consultants, Ltd.				-	
Date	8-7-02		Technician_	Justin	HUBBERT
Inst. Model	Lucium 2221		Serial No	Meter PRI	86 68143
	x1"Nal / 2"x2" Nal hielded / Not Shielded		Lift Elevation	n -3 ft	
Background	5-10K	_ cpm	Action Level	20,680	cpm



#### RADIATION SURVEY FORM

Project # 25585-XI Project Name GMO Page of

STS Consultants, Ltd.

Date 8-7-02

Inst Model Luplum 2221

Probe Type: 1'x1"Nal / 2"x2" Nal Shielded / Not Shielded

Background 5-10 K cpm

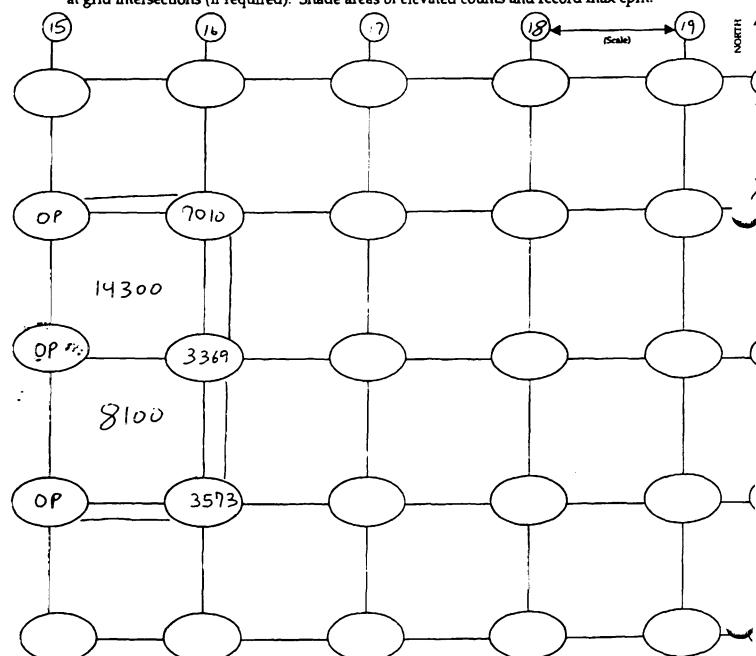
Technician Justin HubbERT

Model # PROBE

Serial No. 126496 168143

Lift Elevation — 4.5 F+

Action Level 30, 680 cpm



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#### RADIATION SURVEY FORM

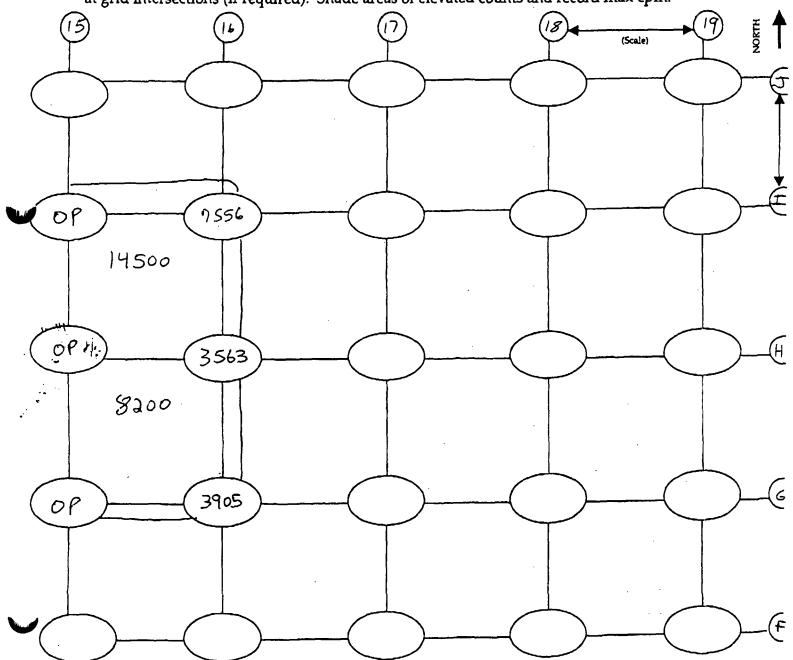
Project # 25585-XI Project Name GMO Page of

STS Consultants, Ltd.

Date 8-7-02 Technician Justin Hubbert

Model # Probe Type: 1'x1"Nal /2"x2" Nal
Shielded Not Shielded

Background 5-10 K cpm Action Level 30,680 cpm



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	Project # 25585-XI	Project Na	me <u>GMO</u>	Page	of	_
STS Consultants, Ltd	·	•				
	3-7-02	<del></del>	Technician	Sustin cter	Hubber Probe	L
Inst. Model	Luplum adal	<del></del>	Serial No/2	6496	68143	_
	1'x1"Nal /2"x2" Nal Shielded / Not Shielded		Lift Elevation	-7,5	-`+	
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	Project # 25585-XI	Project Na	me GMO	Page	of 25
STS Consultants, L  Date	kd. 8-2-02		Technician	20 de	- H
	Ludlum 2221		Serial No.	LD Sunctor# /126 496 /1	68 143
Probe Type:	1'x1"Nal / 2"x2" Nal Shielded / Not Shielded		Lift Elevation	Surface	
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ST9 Consultante,	Project # 25585-XI	Project Name GM	Page 2 of 26
Date	8-2-02	Technicia	n LD Lia
Inst. Model	Ludlum 2221	Serial No	motor# 100 to # 126496 168143
Probe Type:	1'x1"Nal /2"x2" Nal Shielded Not Shielded		tion Surface
Background	3 k - 8k	_ cpm Action Le	vel 20,680 cpm
	esignations in circles. Record lections (if required). Shade ar		n cpm. Record 30 second counts
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(OP)			159 4373
Excapate F. k. Exclusion	d as Esclusion Zone sion zone boundry	OP: OMER POSE NE: NOT excess	ted SL= Slope

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#### RADIATION SURVEY FORM

Project Name GMO Page 3 of 25 Project # 25585-XI Technician & Sull meter # Probe # Serial No. 126 496 168143 Date 8-5-09 Inst. Model Ludlum 2221 Lift Elevation Suffice Probe Type: 1'x1"Nal 2"x2" Nal Shielded Not Shielded Action Level 20 680 cpm Background 2k-6k cpm Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm. 9,400 10,900 9,800 10,400 4373

- Prelusion zone Loundey NE = NoT exampled SL = Slope

Pycavated as Exclusion Zone

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	Project # <u>25585</u> -	-XI Project Na	ame <u>GMO</u>	Page <u>_ 4</u> _ c	125
STS Consultant	a, Led			•	<b>\</b>
Date	8-6-02		Technician	1 D L Pro 26 496 168	10
Inst. Mode	1 Ludlum 2221		Serial No. 12	26 496 168	7143
Probe Type	2 1'x1"Nal //2"x2" Nal Shielded Not Shielded		Lift Elevation	Bur face	2
Background	d_2+-6+	cpm	Action Level _	20,680	_ cpm
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#### RADIATION SURVEY FORM

Project Name GMO Page 5 of 25 Project # 25585-XI 5TS Consultants, Ltd. Technician 25 Serial No. 126 496 168 143 8-2-02 Date Inst. Model Ludlum 2221 Lift Elevation ________ Probe Type: 1'x1"Nal 2"x2" Nal Shielded / Not Shielded 3 t -8t cpm Action Level 20,680 cpm Background____ Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm. (Scale) 01 OP OP 13,600 14,500 12,200 12,300

OP : OHET Pase Excavated as Exclusion Zone E= Exclusion zone bounday NE= NOT excavated SL= Slope

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	Project # 25585-XI	Project Name _GM	Page C	of 25
575 Consultanta, Ltd.  Date 8	-2-02	Technici	in IDL	ia-
	dlum 2221	Serial No	moter # 10 0.126496 16	18 193
Probe Type: 1'x Sh	1"Nal 2"x2" Nal ielded Not Stielded		ation	
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	Project # _255 <b>85</b> -)	KI Project Na	me_ <b>GMO</b>	Page o:	f 25
STS Consultants, Ltd.  Date 8	5-09		Technician	S & Swith	/
	udlum 2221	·		1 D In-11 neter # 100 168.	143
Probe Type: 1	x1"Nal 2"x2" Nal' hielded Not Shielded	)	Lift Elevation	-1-5	
<del>-</del>	24-64			20,680	
Write grid design	gnations in circles. Reco	ord highest coun e areas of elevat	ts for grid in cpr ed counts and re	m. Record 30 secor ecord max cpm.	id counts
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Pycavated	as Exclusion Zon	ME OP OM	excuvated Sc	L= Slope	

		Project # _25585-X	L Project Na	ime Gro	rageo_	_ UI
:	5TS Consultants, L	.nd.			1 1 0	
•	Date	8-6-02		Technician_	20 d	ro be #
1	Inst. Model _	Ludlum 2221	·		1 D L notes # 16 26 496 16	
1	Probe Type:	1'x1"Nal /2"x2" Nal Shielded Not Shielded	)		-1-5	
1	Background_	24-64	cpm	Action Level	20,680	cpm
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### RADIATION SURVEY FORM

Project Name GMO Page 9 of 26 Project # 25585-XI STS Consultants, Ltd. Technician LD Sulla Motor # 1 100 60 # 180 143 8-2-02 Date Inst. Model Ludlum 2221 Lift Elevation _____ 3 ' Probe Type: 1'x1"Nal 2"x2" Nal Shielded Not Shielded Background 3 t - 8t Action Level 20, 680 _____cpm Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm. (Scale) OP 13,500 10,500 10,300

= Exclusion Zone bounday NE= NOT excavated SL= Slope

NE

56

NE

NE

10,400

NE

NE

STS Consultants.		Project Name GMO	Page 10 of 15
	8-2-02	Technician	LD L W. meter # 100 12 113
Inst. Model	Ludlum 2221	Serial No	126496 168 143
Probe Type:	1'x1"Nal / 2"x2" Nal Shielded   Not Shielded		
Background	3 k - 8k	cpin Action Leve	1 20,680 cpm
	esignations in circles. Record hections (if required). Shade are		
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16,200	10,200	9,600	10,900
NE SL	(NE) SC N	E SL (NO	SC NER
Zycante Ck = Exclus	d as Esclusion Zone sion Zone bounday	OP: OMER Page VE: NOT excavate	1 5 L = 5 lope

#### RADIATION SURVEY FORM

Project Name GMO Page /1 of 25 Project # 25585-XT Technician & Su-H mater # Pro be # Serial No. 126 496 168143 Date 8-5-09 Inst. Model Ludlum 2221 Lift Elevation ____ - 3 ^ Probe Type: 1'x1"Nal 2"x2" Nal Shielded Not Shielded Background 2 h - 6 h cpm Action Level 20 680 cpm Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm. (Scale) 12,200 12,000 14,700 14,600 ycavated as Exclusion Zone OP= Omer Pass

k= Exclusion Zone Loundry NE = Not excavated 61 = Slope

	Project # 25585-XI	Project Name _G	MO Page _/	12 of 25
575 Consultants. Ltd.	(	·	ician Lot d	0 -70
	6-02	tecun	meter# /	Fro be 3
Inst. Model <u>Lu</u>	11um 2221			
	1"Nal /2"x2" Nal elded (Not Shielded)	Lift Ele	evation3	
Background	2 H - 6 t	_ cpm Action	Level 20,68	O cpm
	ations in circles. Record l			
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16,300	11,200	9,200	10,500	•
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Pycavated a.	s Exclusion Zone	OP2 OMET Pase		pe

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### RADIATION SURVEY FORM

Project # 25585-XI Project Name GMO Page 13 of 25 575 Consultants, Ltd. 8-2-08 Inst. Model Ludlum 2221 Lift Elevation _ - 4-5 Probe Type: 1'x1"Nal /2"x2" Nal Shielded V Not Shielded Background 3 t - 8t Action Level 20,680 cpm ____cpm Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm. (Scale) OP OP 09 11, 900 300 9,200 12,300

A Excavated as Exclusion Zone OP= OMEr Page

**** Exclusion Zone Loundry NE= NOT excavated SL= SLope

# SR

	513 Consultants.	Project # 25585-XI	Project Name	imo Pa	ge 14 of 25
	Date	8-2-02	Tech	nician ZD	Lia
	Inst. Model	Ludlum 2221	Serial	meter # No. 126 496	168 143
	Probe Type:	1'x1"Nal /2"x2" Nal Shielded Not Shielded	Lift E	levation	4.5'
	Background	3 K - 8K	_ cpm Action	Level 10,	680 cpm
		esignations in circles. Record : ections (if required). Shade as			
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	14,800	11,200	9,800	9,6	00
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	Project # <u>25585-XI</u>	Project Nam	e GMO	Page _	15 of 25	
STS Consultante, Ltd.			Tochnicism	10 d	H	
Date 8	5-09		Technican"	1 D Si neter# 26496	Probe #	
Inst. Model 🗘	udlum 2221					
Probe Type: 1's	x1"Nal /2"x2" Nal nielded Not Shielded		•	<u>- 4-</u>		
~	24-64			20,69		
Write grid desig	nations in circles. Record hons (if required). Shade are	ighest counts	for grid in c	pm. Record 30 record max cr	D second counts	;
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17,900	18,300	18,4	00	10, 90	0	
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	as Exclusion Zone on zone bounday	OP= OME NE=NOT	e Keavalla	e sc = s	lope	

### RADIATION SURVEY FORM

Project Name GMO Page 16 of 25 Project # 25585-XI Technician LD Store # Probe # 8-6-02 Date Serial No. 126 496 168143 Inst. Model Ludlum 2221 Lift Elevation ____ - 4-5 Probe Type: 1'x1"Nal /2"x2" Nal Shielded Not Shielded Action Level 20, 680 cpm Background 2 H + 6 t _____ cpm Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm. (Scale) OP 10,100 9,600 9,500 14,400 NE NE Pycavated as Exclusion Zone OP= OMEr 5 L = 510p+ R= Prolusion Zone Loundry NE = Not Excepted

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### RADIATION SURVEY FORM

Project # 25585-XI Project Name GMO Page 17 of 25 STS Consultants, Ltd. Technician Lo Suit 8-2-02 Date Mater # Serial No. 126 496 168143 Inst. Model Ludlum 2221 Probe Type: 1'x1"Nal 2"x2" Nal Lift Elevation ____ Shielded ( Not Shielded 3 4 - 84 cpm Action Level 20,680 cpm Background____ Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm. (Scale) OP 08 01 OP 10,200 9,600 8,400 9,400 5 4 56 54 OP= OMET Excavated as Exclusion Zone k= Exclusion zone bounday NE= NOT excavated 5 (= 5/ope

## RADIATION SURVEY FORM

		Project # 25585-X	L Project Na	ame GMO	Page/ 9	of 25
	573 Consultants.  Date	8-2-02		Technician_	2DL	ia
	Inst. Model	Ludlum 2221		Serial No. <u>/</u>	26 496 16	8/43
	Probe Type:	1'x1"Nal 2"x2" Nal Shielded Not Shielded		Lift Elevation	-6'	· · · · · · · · · · · · · · · · · · ·
	Background	3 k - 8k	cpm	Action Level	20,680	cpm
	Write grid de	esignations in circles. Record	d highest coun areas of elevat	ets for grid in c	om. Record 30 sec record max com.	ond counts
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	12,50	0 10,300	9,7	00	8,600	
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Project Name GMO Page 19 of 25 Project # 25585-XI Technician & Su-the meter # 1 Pro be # Serial No. 126496 168143 8-5-09 Date Inst. Model Ludlum 2221 Lift Elevation ____6 Probe Type: 1'x1"Nal /2"x2" Nal
Shielded Not Shielded Action Level 20, 680 cpm Background 2+-6+ Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm. 10,600 13,600 12,400 13,400 NE Pycavated as Exclusion Zone of omer - Prelusion Zone bounday NE : Not excounted SC = Slope

	Project # 255	85-XI Project N	lame <u>GMO</u>	_ Page _ 20 of _?
5TS Consultants.				•
	Ludlum 222	· · · · · · · · · · · · · · · · · · ·	met	D L TO BE # 496 168143
				_
Probe Type:	1'x1"Nal //2"x2" Nal Shielded (Not Shield		Lift Elevation	
Background	2 H - 6 t	cpm	Action Level	0,680 cpm
	esignations in circles. I sections (if required). S			
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NE)	NE	(NE)	(NE)	SC NE A
Pycavate.	d as Exclusion 2 sion 2 ane bound	ONE OPOM	Texaveted St	= Slope
The Parties	TON CONC.	- , , , , , , , , , , , , , , , , , , ,		

Project Name GMO Page 21 of 25 Project # 25585-XI

575 Consultants, Ltd.

8-2-02 Date

Inst. Model Ludlum 2221

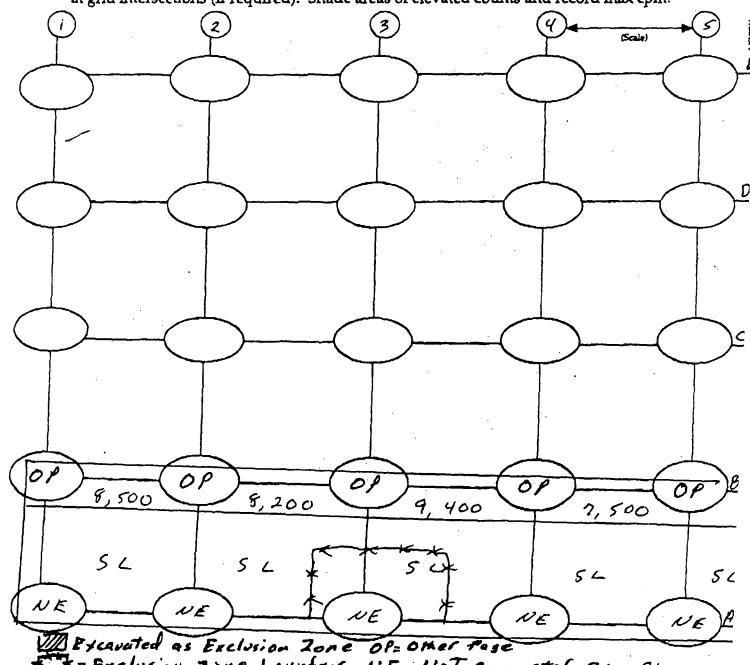
Probe Type: 1'x1"Nal /2"x2" Nal Shielded Not Shielded

Background 3 t - 8t cpm

Technician 2 D 1 1 Probe # Serial No. 126 496 168 143

Action Level 20,680 cpm

Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm.



Exclusion Zone Loundry NE= NOT excavated 51 = Slope

## RADIATION SURVEY FORM

Project Name GMO Page 22 of 25 Project # 25585-XI Technician LD L 168 193

Serial No. 126 496 168 193 8-2-02 Date Inst Model Ludlum 2221 Probe Type: 1'x1"Nal //2"x2" Nal Lift Elevation ____ Shielded (Not Shielded) Action Level 20,680 cpm Background 3 k + 8 k cpm Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm. (Scale) 04 50 5 4 5 4 NE Excepted as Exclusion Zone OPS OMET Page

F= Exclusion Zone bounday NE=NOT exceveted SL= Slope

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## RADIATION SURVEY FORM

		•	Project Name	Page 23 or x3
	STS Consultants, Ltd.		Tachai	- SD S H
		5-09	rectwi	cian L D Su-th meter#   Probe # No. 126496   168143
	Inst. Model	udlum 2221		
	Probe Type: 1	'x1"Nal 2"x2" Nal hielded Not Shielded	Lift Ele	vation
	Background	2 h - 6 h	_ cpm Action	Level 20, 680 cpm
	Write grid design at grid intersect	gnations in circles. Record l ions (if required). Shade ar	nighest counts for gri eas of elevated count	d in cpm. Record 30 second counts and record max cpm.
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OF	9,800	10,200	9,400	9,200
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(NI			(F)	VE DE NE
V	A Pycavated	as Exclusion Zone	OP2 OHER Pase NE : NOT excare	ted SC=Slope

Project Name GMO Page 24 of 25 Project # 25585-XI Technician Lo Salus meter # Probe # Date 8-6-02 Serial No. 126 496 168143 Inst. Model Ludlum 2221 Lift Elevation Probe Type: 1'x1"Nal //2"x2" Nal Shielded (Not Shielded Action Level 20, 680 cpm 24-64 ____cpm Background_ Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second count at grid intersections (if required). Shade areas of elevated counts and record max cpm. 13 OP OP OP 9, 100 9 400 8, 800 9 800 50 56 5 6 50 NE NE Bycavated as Exclusion Zone Of= Omer

Exclusion Zone Loundry NE = Not excaveted SL= Slope

## RADIATION SURVEY FORM

Project Name GMO Page 25 of 25 Project # 25585-XI STS Consultante, Ltd. Technician LD St. 120 Meter # Probe # Serial No. 126 496 168143 8-6-02 Date Inst. Model Ludlum 2221 Lift Elevation ___ 8.5 Probe Type: 1'x1"Nal /2"x2" Nal Shielded | Not Shielded Action Level 20,680 cpm Background 2 h = 6 t cpm Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm. (Scale) OP OP OP OP OP 8-900 8,600 8,700 9 200 56 56 5 6 NE NE Bycavated as Exclusion Zone k= Exclusion 2 one Loundry NE = Not excavated SL= Slope

		KADLATION SUB	-	_
	Project # 25585-XI	Project Name _ G	MOPage_1 o	f_2
575 Consultaren, 1  Date	8-7-02	Techni	ician LD Suit	<u></u>
	Ludlum 2221	Serial )	meter #   Fro No. 126496   168	143
	1'x1"Nal / 2"x2" Nal Shielded / Not Shielded	Lift Ele	evation <u>Surface</u>	-
Background_	34-14	cpm Action	Level 20,680	_ cpm
Write grid de	signations in circles. Record	highest counts for gri	d in cpm. Record 30 secons and record max cpm.	rq conna
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9,700	7,200	6,200	8,200	
OP			3428 338	79 1
Pycamie	l as Exclusion Zone	OF OMET POR		

Project Name GMO Page 2 of 7 Project # 25585-XI STS Consultants, Ltd. Technician I Dolin 8-7-02 Date Serial No. 12 (496 Inst. Model Ludlum 2221 Lift Elevation ________ Probe Type: 1'x1"Nal 2"x2" Nal
Shielded Not Shielded Action Level 20,680 Background 34-74 ____cpm Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm. (Scale) 8,800 8,400 8,600 9,400 Exclusion Zone OP OMer Pess

ne bounday NE= Not excaveted 51=5lope

		RADIATION SURVEY	
	Project # <u>25585-XI</u>	Project Name GMO	Page 3_ of 7
515 Coordinate, L	8-7-02	Technician	J D Smith
<u> </u>	Ludlum 2221	Serial No	126496 168143
	1'x1'Nal /2"x2" Nal' Shielded Not Shielded	Lift Elevation	
Background_			20,680 cpm
Write grid de	signations in circles. Record actions (if required). Shade as	highest counts for grid in c	
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10, 200	8,200	8,400	9,600
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NE SC		e OP OMET POSE	Q 5L = Slope
201.2-	lucion zone bounds	NE= Not excepted	,

GR		RADIATION	SURVEY FOR	LM -	
	Project # <u>255BS-XI</u>	Project Name	GMO	Page 4 o	1-2
STS Consultants, Ltd.	. 7-02	<b>T</b> -	shalaian 1	8 8 3	1
			met	D Smit	de B
Inst. Model	vdlum 2221			_	143
Probe Type: 1': Sh	x1"Nal 2"x2" Nal vielded Not Shielded	Lif	t Elevation	- 4.5"	
Background	3K-7K	_ cpm Ac	tion Level	20,680	_ cpm
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## RADIATION SURVEY FORM

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	STS Consultants. 1  Date	8-7-02	·	Technician	20	lnite	
		Ludlum 2221		Serial No	126496 I	1681	£3_
	Probe Type:	1'x1"Nal /2"x2" Nal Shielded / Not Shielded		Lift Elevation	on	, 	·
	Background_	3 K - 7 K	_ cpm	Action Levi	1. 20,6	80	:pm
	Write grid de	signations in circles. Record	highest count	s for grid in	cpm. Record 3	0 second c	ounts
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(C)		RADIATION S	urvey for	M.	
	Project # <u>255<b>BS</b>-XI</u>	Project Name _	GMO	Page 6 of	7
Date8	7-02	Tec	hnician	D Smil	L bc ¥
Inst. Model Lud	lum 2221		al No. 120	496 168	143
Probe Type: 1'x1" Shiel	Nal /2"x2" Nal ded Not Shielded	Lift	Elevation	- 7-5	· —————
Background3	16-74	_ cpm Acti	on Level	20,680	_ cpm
Write grid designate	tions in circles. Record is (if required). Shade ar	highest counts for eas of elevated co	grid in cpm. unts and reco	Record 30 secon	d counts
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Pycavated as	Exclusion Zone	NE : Not exc	causted 5L	= Slope	

## RADIATION SURVEY FORM

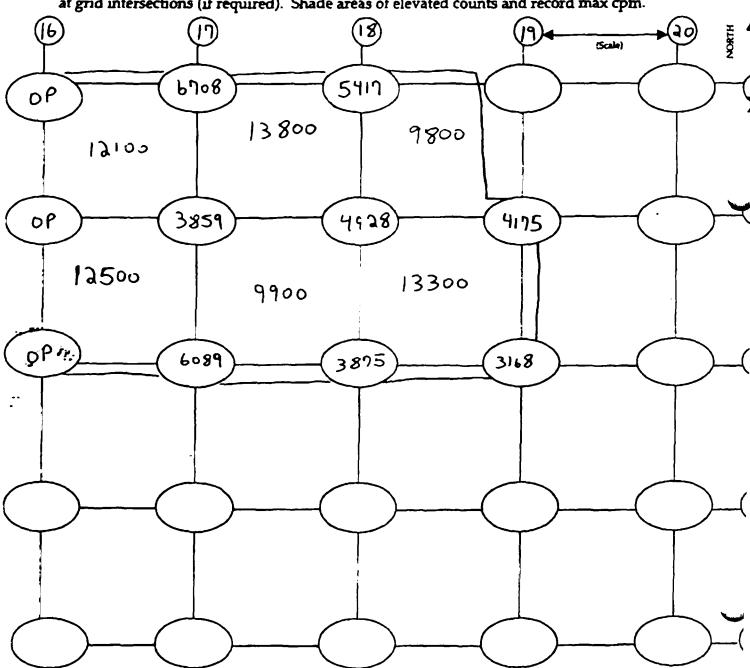
STS Consultantes. I	Project # <u>25585-XI</u>	Project Name	Page 7 of 7
Date	8-7-02	Tech	nician 10 Smith
Inst. Model	Ludlum 2221	Seria	No. 126 496 168143
Probe Type:	1'x1"Nal /2"x2" Nal Shielded / Not Shielded	Lift E	levation 8-5
Background_	34-24	_ cpm Actio	n Level 20,680 cpm
	signations in circles. Record is ections (if required). Shade are		rid in cpm. Record 30 second counts and record max cpm.
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5TS Consultants	Project # 255	35-XI Project 1	ION SURVEY FORM	1 Page of6	_
Date	8-8-02		Technician Ju		
Inst. Model	Liolum da	91	Serial No. 1272	12 16B144	<u>'</u>
-	1'x1"Nal / 2"x2" Nal Shielded / Not Shield	ed	Lift Elevation So		_
Background	5-10 K	cpm	Action Levela	1,072 cp	m
	signations in circles. Rections (if required). Sh				nts
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Project Name GMO Page 3 of 6 Project # 25585-XI STS Consultants, Ltd. JUSTIN HUBBERT
METER# PROBE# 8-8-02 Technician__ **Date** Luplum 9991 168144 Inst. Model 

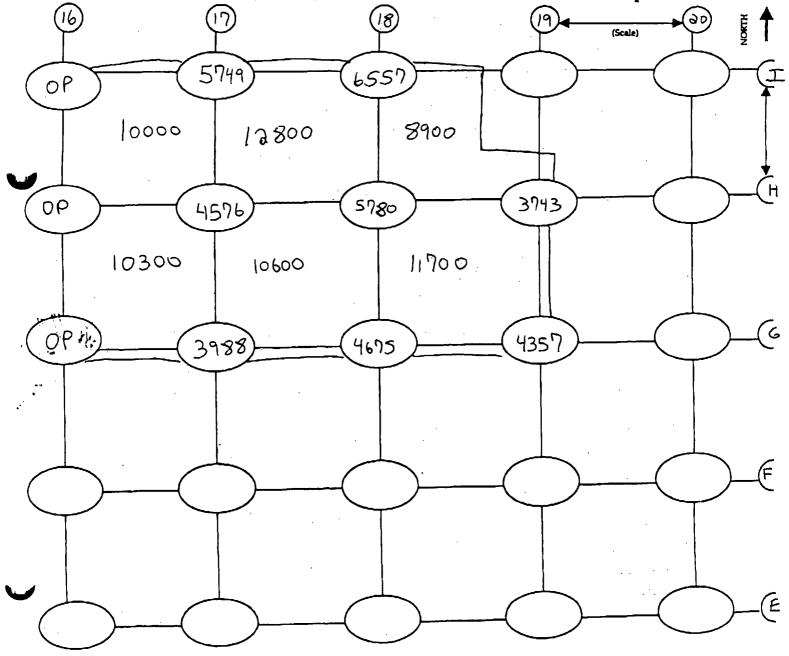
Probe Type: 1'x1"Nal / 2"x2" Nal Shielded Not Shielded

5-10 K Background_ _ cpm Action Level 21,072





	Project # 25555			
STS Consultants, Ltd.	Project # 25585-XT	Project N	ame GMO Pag	ge 3 of 6
Date	8-8-02	,	Technician_Justi	14.1.1
Inst. Model	rophum 9991		Serial No. 127242	N HUBBERT PROBE# 168144
Probe Type: 1'x1 Shice	1"Nal /2"x2" Nal elded / Not Shielded			Feet
Background	5-10K	cpm	Action Level 31,01	72 cpm



STS Consultants, Ltd.

### RADIATION SURVEY FORM

Project # _25585-XI	Project Name GMO	Page _	1 of 6
		<del>-</del>	

Date 8-8-02

Technician Justin Hubbert PROBE

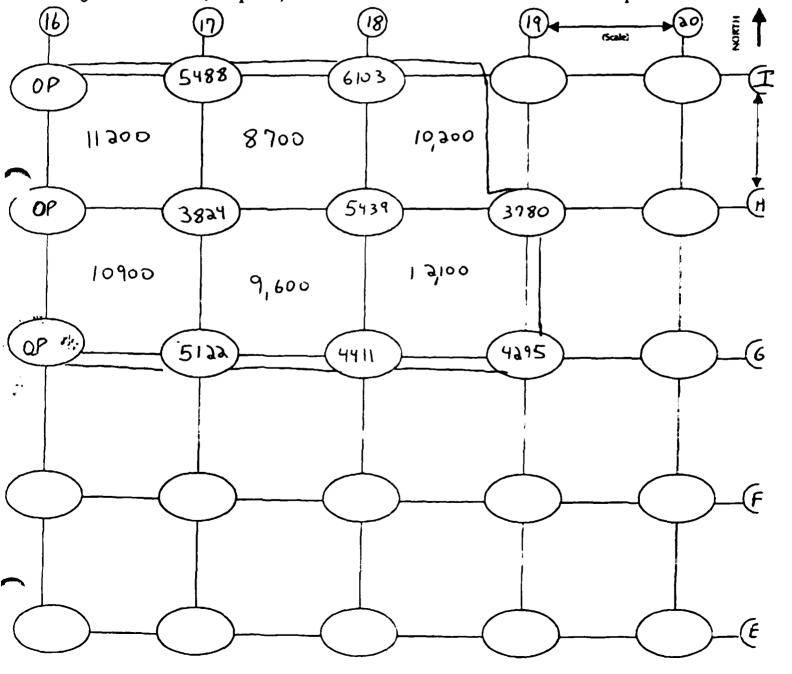
Inst. Model Luclum 2221

Serial No. 127242

Inst. Model Luclum 2221

Extend Probe Type: 1'x1"Nal /2"x2" Nal Shielded Not Shielded

Background 5-10 K cpm Action Level 21,072 cpm



### RADIATION SURVEY FORM

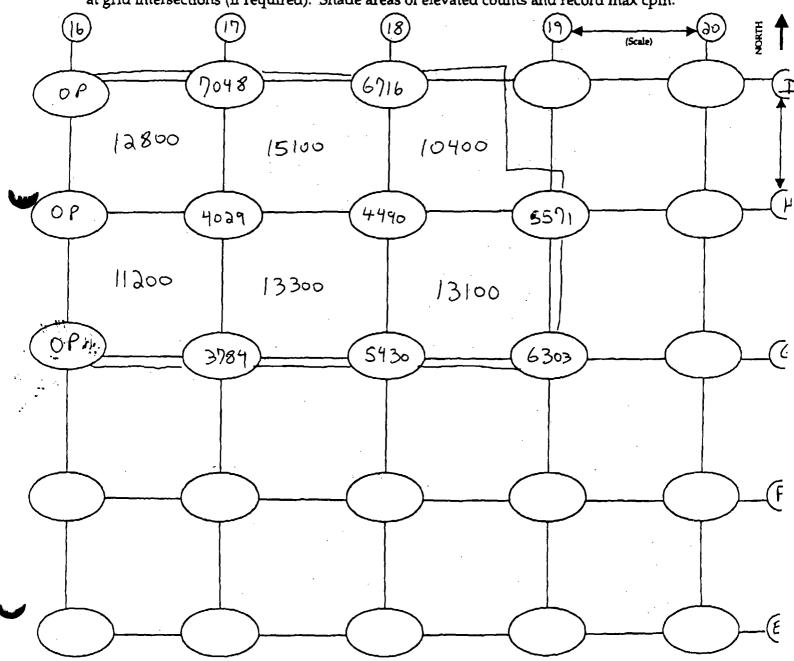
Project # 25585-XI Project Name GMO Page 19 of 6

STS Consultants, Ltd.

Date 8-8-02 Technician Justin Hubbert

meter Probe Type: 1'x1"Nal /2"x2" Nal
Shielded Not Shielded

Background 5-10K cpm Action Level 21,072 cpm



### RADIATION SURVEY FORM

Project # 25585-XI Project Name GMO Page 35 of 6

5TS Consultants, Ltd.

Date 8-8-02

Inst. Model Luplum 2221

Probe Type: 1'x1"Nal /2"x2" Nal

Shielded / Not Shielded

Background 5-10K cpm

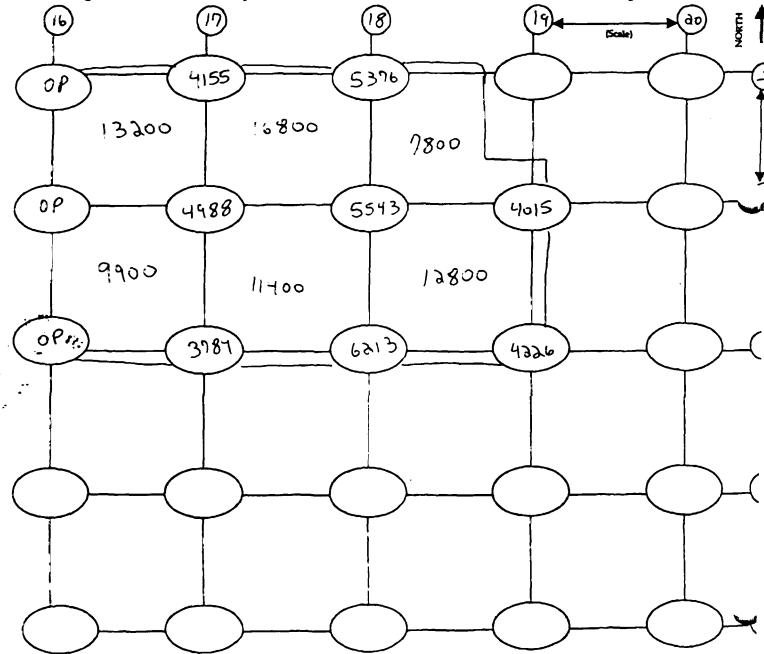
Technician Justin Hubbert

meter PROBE#

Serial No. 127342 168144

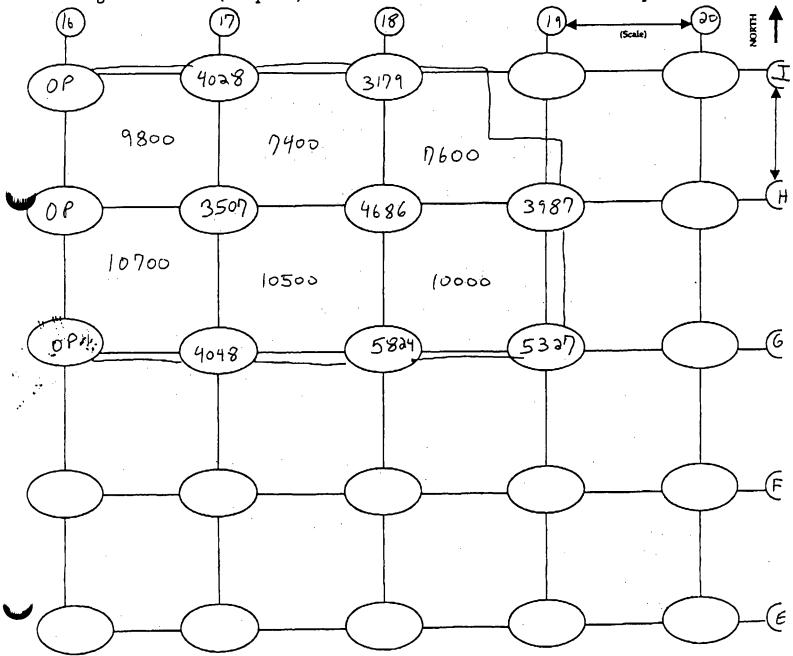
Lift Elevation _ - 6 feet

Action Level 31,072 cpm



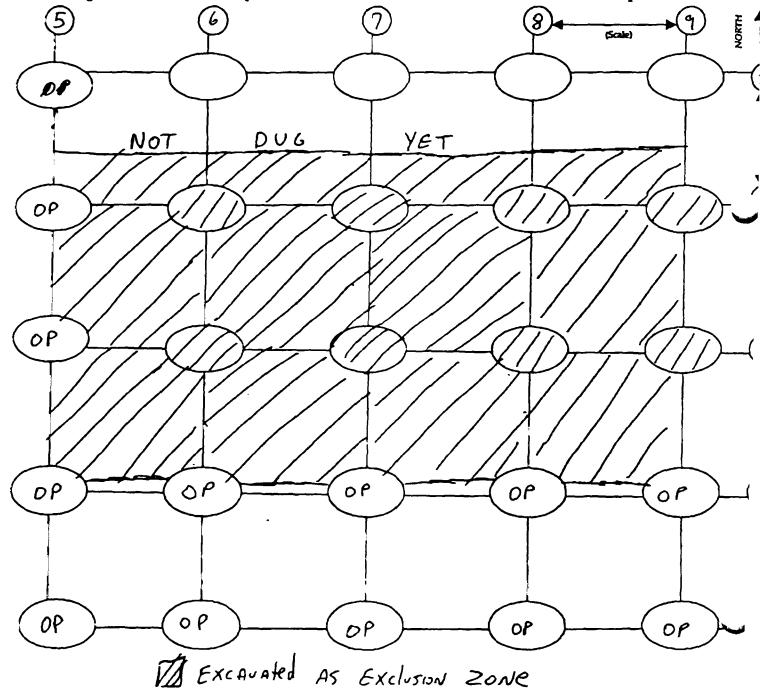
### RADIATION SURVEY FORM

Project Name GMO Page 36 of 6 Project # <u>25585-XI</u> STS Consultants, Ltd. Technician Justin Hubbert PROBERT 8-8-03 Date 9991 Luolum Serial No. 127242 Inst. Model _ -7.5 feet Lift Elevation __ Probe Type: 1'x1"Nal /2"x2" Nal Shielded / Not Shielded Action Level 31,072 cpm 5-10K Background cpm



RADIATION SURVEY FORM Project Name GMO Page of 6 Project # 25585-XI 575 Consultanos, Ltd. Technician Justin Hubbert meter# Prope# Serial No. 127242 168144 7-29-02 Date Inst Model Luplum 2221 Lift Elevation ___SURFACE Probe Type: 1'x1"Nal / 2"x2" Nal Shielded / Not Shielded 5-10 K cpm Action Level <u>21072</u> cpm Background____ Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts

at grid intersections (if required). Shade areas of elevated counts and record max cpm.



Project Name GMO Page 2 of 6 Project # 25585-XI

STS Consultants, Ltd.

7-29-02 Date

Inst. Model <u>Luplum</u> 2221

Probe Type: 1'x1"Nal / 2"x2" Nal Shielded / Not Shielded

5-10K cpm Background___

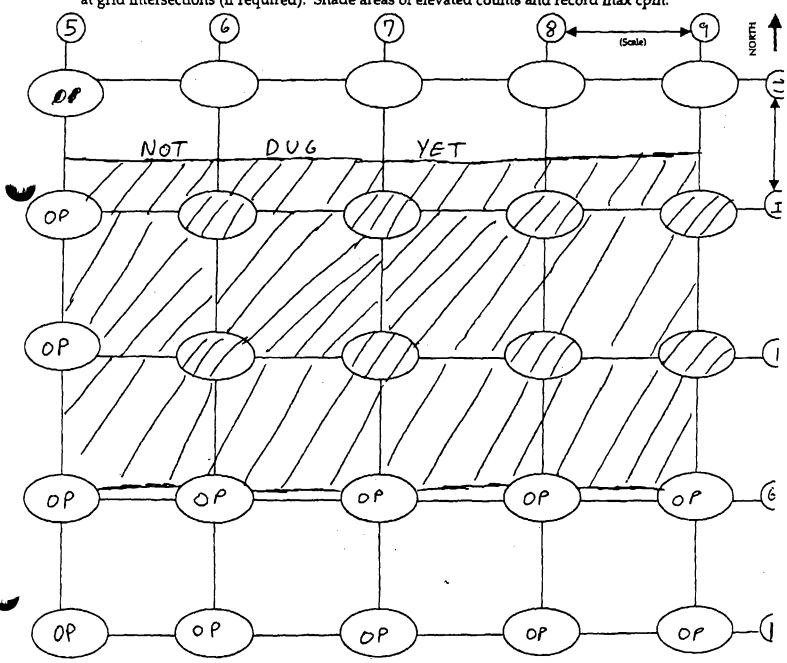
Technician Justin Hubbert

meter# Proce#

Serial No. 127242 168144

Action Level <u>21,072</u> cpm

Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm.



M- Excavated AS Exclusion ZONE

## **E3**

## RADIATION SURVEY FORM

Project # 25585-XI Project Name GMO Page 3 of 6

575 Consultants, Ltd.

Date 7-29-02

Inst Model Luplum 2221

Probe Type: 1'x1"Nal / 2"x2" Nal Shielded / Not Shielded

Background 5-10 K cpm

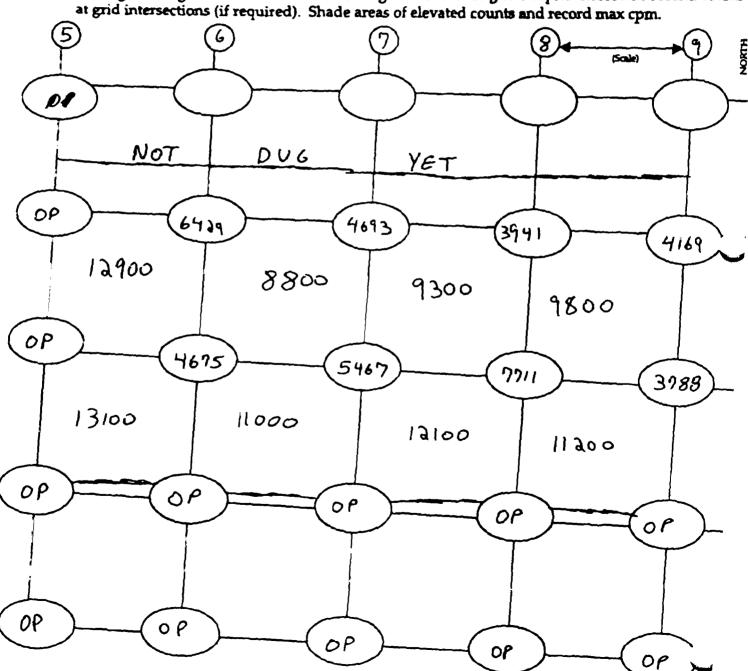
Technician Justin Hubbert

meter# Prope#

Serial No. 127242 168144

Lift Elevation -3 Ft

Action Level 31,072 cpm



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### RADIATION SURVEY FORM

Project Name GMO Page 4 of 6 Project # 25585-XI STS Consultants, Ltd. Technician Justin Hubbert meter# Proce# Serial No. 127242 168144 -29-02 Date Luplum 2221 Inst. Model __ Probe Type: 1'x1"Nal / 2"x2" Nal Shielded / Not Shielded Action Level 31,072 cpm 5-10K Background_ Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm. NOKTH (Scale) DP NOT DUG YET 5547 4211 3660 OP 6254 11700 13700 8300 8900 OP H 3786 5161 4169 4929 10800 9500 8200 12600 00 OP OP OP OP

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### RADIATION SURVEY FORM

Project # 25585-XI Project Name GMO Page 5 of 6

575 Consultants, Ltd.

Date 7-29-02

Inst. Model <u>Luplum</u> 2221

Probe Type: 1'x1"Nal / 2"x2" Nal

Shielded / Not Shielded

Background 5-10 K cpm

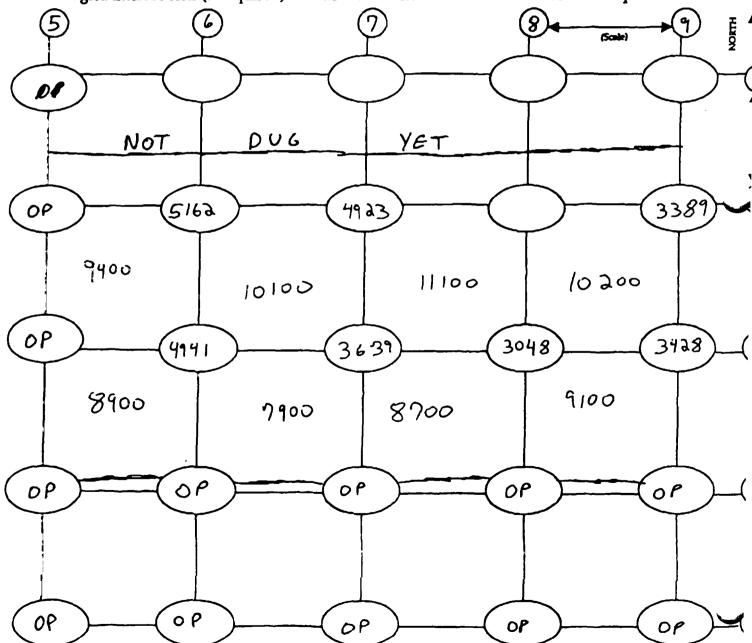
Technician Just in Hubbert

meter # Prope #

Serial No. 127242 168149

Lift Elevation -6 Ft

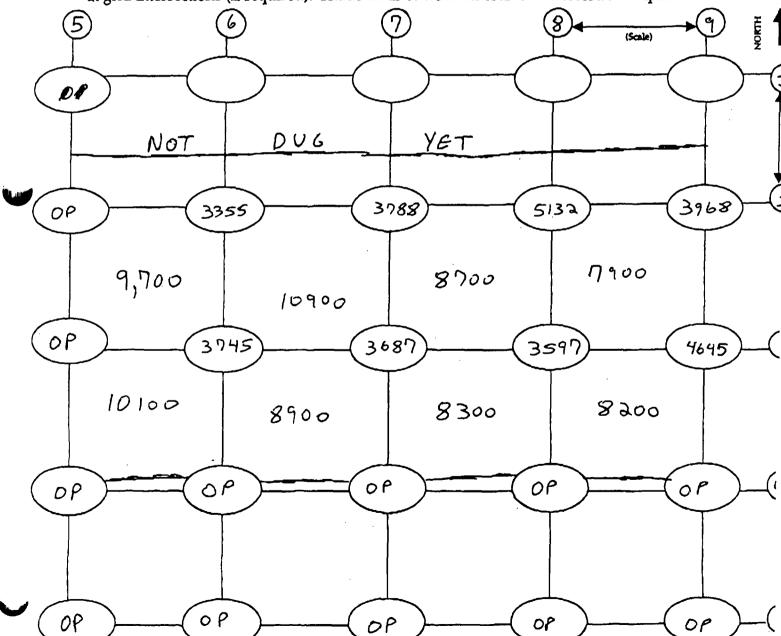
Action Level 31,072 cpm



Project Name GMO Page 6 of 6 Project # 25585-XI STS Consultants, Ltd. Technician Justin Hubbert

meter ## Proce ##

Serial No. 127242 168144 7-29-02 Date roblam 9991 Inst. Model __ Lift Elevation _ - 7, 5 Feet Probe Type: 1'x1"Nal / 2"x2" Nal Shielded / Not Shielded Action Level <u>21,072</u> cpm 5-10K Background_ Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm. (Scale)



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Project # 25585-XI Project Name GMO Page 3 of 6

STS Consultants, Ltd.

Date	8-6-03
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Inst Model <u>Luplum</u> 2221

Probe Type: 1'x1"Nal / 2"x2" Nal
Shielded / Not Shielded

Background 5-10K cpm

Technician Justin Hubbert

meter PROBE#

Serial No. 127242 168144

Lift Elevation SURFACE

Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts

Action Level 31,072 cpm

at grid intersections (if required). Shade areas of elevated counts and record max cpm. (19) 106 YET NOT OP OP OP OP OP TA EXCAUATED AS EXCLUSION ZONE

S	Project # 25	585-XI Project N	Name GMO	Page & of 6	
STS Consul	tants, Ltd.			•	•
Date	8-6-02		meter	ustin Hubbert PROBE#	_
Inst. Mo	del <u>Lublum</u> di	391	Serial No. 12724	12 168144	<del>-</del>
Probe Ty	ype: 1'x1"Nal / 2"x2" N Shielded / Not Shi		Lift Elevation	1.51+	~
Backgro	und 5-10K	cpm	Action Level	cpn	a
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Project Name GMO Page 3 of 6 Project # <u>25585-XI</u>

8-6-02 Date

Trophy 9391 Inst. Model

Probe Type: 1'x1"Nal /2"x2" Nal Shielded Not Shielded

5-10K

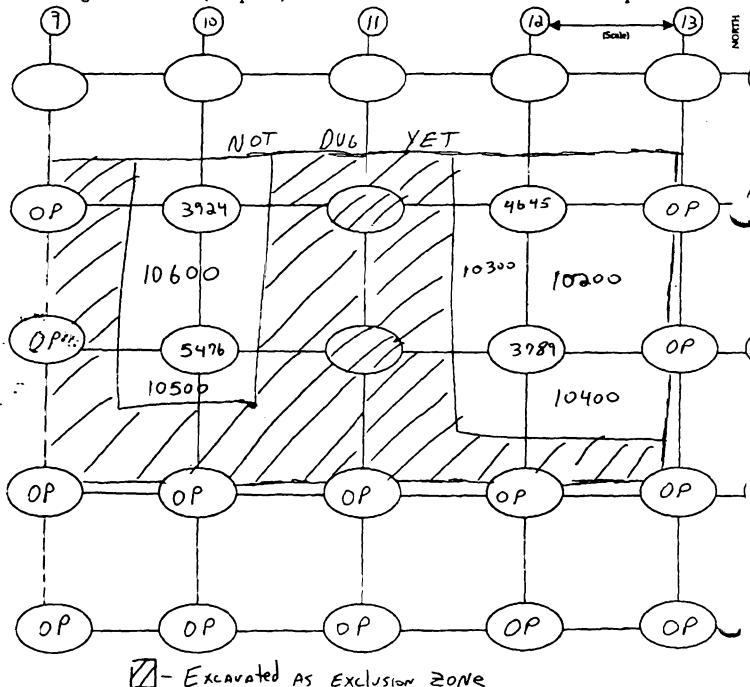
Background_ _ cpm Technician Justin Hubbert

meter PROBER

Serial No. 127242 168144

Lift Elevation __3 F+

Action Level 31,072



### RADIATION SURVEY FORM

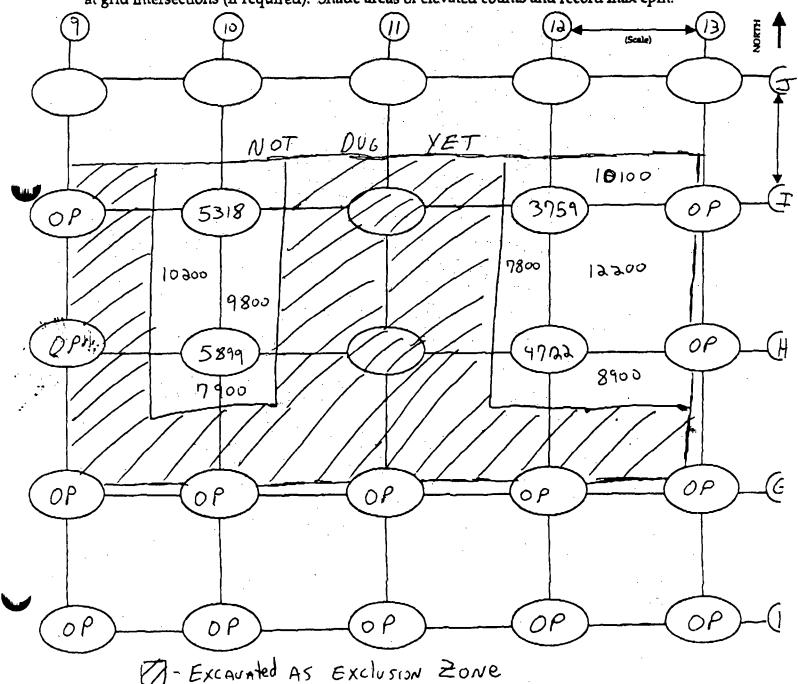
Project # 25585-XI Project Name GMO Page 34 of 6

STS Consultants, Ltd.

Date 8-6-02 Technician Justin Hubbert

Meter Probe Type: 1'x1"Nal / 2"x2" Nal
Shielded Not Shielded

Background 5-10K cpm Action Level 31,072 cpm



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### RADIATION SURVEY FORM

Project Name GMO Page B5 of 6 Project # 25585-XI Justin Hubbert PROBER 8-6-0a Technician_ Date 999/ Inst Model _ LuDlum Serial No. 127242 168144 Lift Elevation _ -6 f+ Probe Type: 1'x1"Nal / 2"x2" Nal Shielded / Not Shielded 5-10K Action Level 31,072 cpm Background, __ cpm Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm. (Scole) DUG NOT YET 507 OP OP 4292 53 47 9300 8500 8400 12000 O Pre 5749 4812 OP 3345 7800 13000 9700 10200 OP OP (( 08 OP OP

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## RADIATION SURVEY FORM

Project # 25585-XI Project Name GMO Page 36 of 6 STS Consultants, Ltd. Technician Justin Hubbert PROBE# 8-6-0a Date 9391 Luolum Serial No. 127242 168144 Inst. Model Probe Type: 1'x1"Nal / 2"x2" Nal Shielded / Not Shielded 5-10K Action Level 31,072 Background_ cpm Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm. (Scale) NOT DUG YET 4456 OP OP 4138 4212 8400 7900 7500 8700 OPH. OP 5749 3351 4311 8900 7800 7600 7700 OP OP Œ OP OP OP

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## RADIATION SURVEY FORM

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Date	9-02	Technician_	To Smith
Inst. Model 🗘	udlum 2221		126496 168143
Probe Type: 1	'x1"Nal 2"x2" Nal hielded Not Shielded	Lift Elevation	Surfece
Background	44 - 84	_ cpm Action Level	20,680 cpm
Write grid desig	gnations in circles. Record !	dghest counts for grid in c	om. Record 30 second count
at grid intersect	ions (if required). Shade are	eas of elevated counts and	record max cpm.
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578 Consultante, Ltd.	Project # _25585-XI	Project Ival	ne GMO	Page b	
Date 8	- 29-02		Technician (n	I D Smil	4
Inst. Model	udlum 2221		Serial No. 12	6496 116	8143
Probe Type: 1	'x1"Nal 2"x2" Nal hielded Not Shielded		Lift Elevation	- 7-5	,
Background	4k - 9k	cpm	Action Level _	20,680	cpm
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III Pycavated	as Exclusion Zone	OP2 OME	executed Si	1-Slage	<u> </u>

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		Project # <u>25585-XI</u>	Project Name _GF10	Page ot
	STS Consultante. L	# 8-9-02	Technician	I D South
	Date			Mater #   Freec =
	Inst. Model	Ludlum 2221		126496   168143
	Probe Type:	1'x1"Nal 2"x2" Nal Shielded Not Shielded	Lift Elevation	on
	Background_	44-84	_ cpm Action Levi	20,680 cpm
	Write grid de	signations in circles. Record : ections (if required). Shade as	highest counts for grid in reas of elevated counts and	cpm. Record 30 second counts I record max com.
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177	7	as Esclusion Zone	OPS OMET PAGE	
4	E L'ACUPATER	in a sup Lauren	NE- Not examited	5L=Slope

__ Page __3 of ____ Project Name GMO Project # 25585-XI Technician & South 8-9-02 Date Serial No. 126 496 168143 Inst. Model Ludlum 2221 Probe Type: 1'x1"Nal / 2"x2" Nal Shielded Not Shielded Lift Elevation _ Action Level 20,680 cpm Background 4 h - 8 k _ cpm Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm. OP OP OP OP 13,200 9,100 14,100 16,800 5969 OP 6928 4190 6816 13,500 . 14,100 11,600 14,600 4211 6933 OP 6244 6552 E Excavated as Exclusion Zone OP= omer - Prelusion Zone Loundry NE = Not excusted 51 = 5/ope

STS Consultanta	Project # 25585-XI	Project Name _GMO	Page 4 of 6
Date	8-9-02	Technician	motor # Probe &
Inst. Model	Ludlum 2221		186426 168143
Probe Type:	1'x1"Nal /2'x2" Nal Shielded / Not Shielded	Lift Elevati	ion <u>- 4-5</u>
Background	44-86	cpm Action Lev	el 20,680 cpm
Write grid d	lesignations in circles. Record sections (if required). Shade a	highest counts for grid in tress of elevated counts an	cpm. Record 30 second count d record max cpm.
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Pycavate Prelu	d as Esclusion Zone sion zone boundary	NE : Not exampled	SL=Slope

Project Name GMO Page 5 of 6 Project # 25585-XI STS Consultants, Ltd. Technician 1 D 8-9-02 Date Inst. Model Ludlum 2221 Serial No. 126 496 -61 Probe Type: 1'x1"Nal 2"x2" Nal Lift Elevation Shielded Not Shielded Action Level 20,680 cpm Background 4k'-8k _____ cpm Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm. (Scale) OP OP OP 11,100 NE 18,100 NF 01 4604 NE 7185 NE 18, 400 NE 12,200 NE OP 3/92 7230 NŁ

zone Loundry NE-Not excavated 51=5lope

cavated as Esclusion Zone Or ome



Project Name GMO Page 6 of 6 Project # 25585-XI

8-9-02 Date

Technician 18 Suit Serial No. 126 496 168143

Inst. Model Ludlum 2221

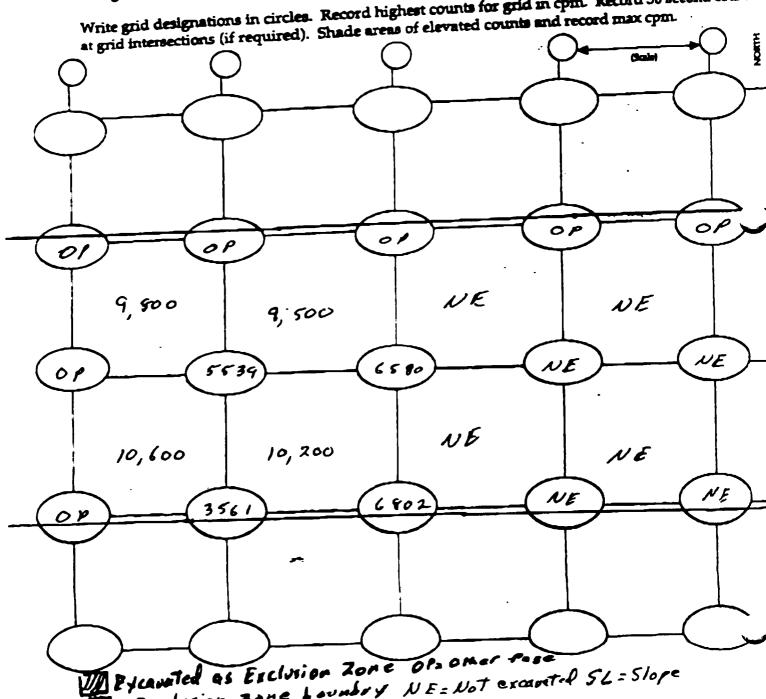
Lift Elevation

Probe Type: 1'x1"Nal /2"x2" Nal

Shielded / Not Shielded

Action Level 10,680 cpm

cbw 4K-8K Background__ Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts



Zone Loundry NE= Not excepted 56= Slope

	Project # 25585-XI	Project Na	me GMO	Page/_	of <u>3</u>
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Date	8-12-02		Technician	ter#	ro be 2
Inst. Model _	Ludlum 2221		Technician	26496 16	8143
Probe Type:	1'x1"Nal //2"x2" Nal Shielded Not Shielded		Lift Elevation	Sulfa	<u> </u>
Background_	4 K-8K	cpm	Action Level	20,680	cpm
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		ct # 25585-XI	Project Naz	ne GMO	Page	of	_3
Date	ы. <u>8-12-</u>	02			JO -		E 20
Inst. Model	Ludlum	2221			126496	108	143
Probe Type:	1'x1"Nal / Shielded /	2"x2" Nal Not Shielded	i	Lift Elevation	on	5	
_	44.		_ cpm		20,		-
Write grid de at grid inters	esignations i ections (if re	n circles. Record l equired). Shade ar	highest count eas of elevate	s for grid in d counts and	cpm. Record d record max	30 secono cpm.	d counts
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GR	:	RADIATION SURVEY FORM
STS Consultants	Project # 25585-XI	Project Name GMO Page 3 of 3
	8-12-02	Technician I & Such
Inst. Model	Ludlum 2221	Serial No. 126 496 168143
Probe Type:	1'x1"Nal /2"x2" Nal Shielded / Not Shielded	Lift Elevation
Background	4 h - 8 h	cpm Action Level 20,680 cpm
		highest counts for grid in cpm. Record 30 second countes of elevated counts and record max cpm.
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11,300	8,200	8,200 OP
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	Project # 25585-XI	Project Na	me GMO	Page 1	of 5
513 Consuluses.	8-14-02			I D Si	4_
	Ludlum 2221		•	26496 168	143
	1'x1"Nal / 2'x2" Nal Shielded Not Shielded		Lift Elevation	-3'	
Background	4h8h	_ cpm	Action Level	20,680	cbw
Write grid de at grid inters	esignations in circles. Record lections (if required). Shade ar	highest coun	ts for grid in cp. red counts and r	m. Record 30 seco	end counts
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<b>Pycamia</b>	as Exclusion Zone	OP2 OME	read C	1 - Slage	

Project Name GMO Page 2 of 5 Project # 255BS-XI Technician L & Suite
motor# | Probe # 8-14-02 Date Serial No. 126496 Inst. Model Ludlum 2221 Lift Elevation ____ 4-5 Probe Type: 1'x1"Nal 2"x2" Nal
Shielded Not Shielded Action Level 20, 680 cpm 4K-8K ____cpm Background____ Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm. 14,800 12,500 6213 7288 6915 E D Pycavated as Exclusion Zone OPs omer - Exclusion zone bounday NE= Not executed 51=5lope

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STS Consultants, S	Project # 25585-XI	Project Na	ime GMO	Page 3 of 5
	8-14-02		Technician Z	D Smith
Inst. Model _	Ludlum 2221		Serial No. 126	446 168113
Probe Type:	1'x1'Nal /2"x2" Nal Shielded / Not Shielded		Lift Elevation	-6'
Background_	44-84	_ cpm	Action Level	20,680 cpm
Write grid de	signations in circles. Record	highest coun	to for grid in cpm. ed counts and reco	Record 30 second counts rd max cpm.
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Project Name GMO Page 4 of 5 Project # 25585-XI Technician LD Snite

meter# | Prode # Serial No. 126496 | 169143 8-14-02 Date Inst. Model Ludlum 2221 Lift Elevation ___ - 7.5 Probe Type: 1'x1"Nal /2"x2" Nal Shielded Not Shielded Action Level 20,680 cpm Background 9638k cpm Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm. (Scale) 17,200 16,100 4465 8231 G ( Excavated as Exclusion Zone Or omer

= Exclusion zone Loundry NE= Not excusted 56=5lope

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	Project #_	25585-XI Project	Name GMO	Page 5 of 5
sts cours Date	8-14-02		Technician 1	O Smith
Inst. Mo	odel Ludlum 2	221	Serial No. 126 y	196 168 143
Probe T	ype: 1'x1"Nal 2"x2" Shielded Not	"Nal Shielded	Lift Elevation	-85"
Backgro	and 4k - 8k	t cpm	Action Level	0,680 cpm
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	Project # _2558\$	<u>-XI</u> Project N	Jame GMO	Page of
STS Consultants, I	·	<b>*</b>		1 8 1L
Date	8-15-02		Technician &	0 Smith ter# 1000 = 12 (496 168143
Inst. Model _	Ludlum 2221		Serial No. 12	(496   168 143
Probe Type:	1'x1"Nal (2"x2" Nal Shielded Not Shielder		Lift Elevation _	Surface
Background_	6H-10H	cpm	Action Level	20,680 cpm
Write grid de	signations in circles. Receptions (if required). Sha	ord highest cou	nts for grid in cpm.	Record 30 second coun
at grid interso	ctions (ir required). Sha	GE STERR OF EVEN		ond max epm.
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24		RADIATION SURVET R	JKM
	Project # _25585-XI	Project Name GMO	Page 2 of 8
Date	8-15-02	Technician	10 lik
<del></del>	Ludlum 2221	Serial No. / 2	C496 168143
Probe Type:	1'x1"Nal 2"x2" Nal Shielded Not Shielded	Lift Elevation	-1.5
Background	6 x - 10 x	cpm Action Level _	20,690 cpm
Write grid de	esignations in circles. Record	highest counts for grid in cpn reas of elevated counts and re	n. Record 30 second counts
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		NE 31 WE	
		13,600	
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RADIATION SURVEY FORM Project Name GMO Page 3 of 8 Project # 25585-XI Technician I D S. IL.

motor # | Proce #

Serial No. 126496 | 168143 8-15-02 Date 168143 Inst. Model Ludlum 2221 Lift Elevation _____ 3 Probe Type: 1'x1"Nal /2"x2" Nal Shielded ( Not Shielded ) Background 64-10k cpm Action Level 20,680 cpm Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm. (Scale) NE E 88 56 Excavated as Exclusion Zone OP2 omer tas

eclusion zone Loundry NE= Not excausted SL= Slope

Project Name GMO Page 4 of 8 Project # 25585-XI Technician I & Smith 8-15-02 Date Serial No. 126496 168143 Inst. Model Ludlum 2221 Lift Elevation - 4.5' Probe Type: 1'x1"Nal / 2"x2" Nal Shielded / Not Shielded Action Level 20, 680 cpm 6 1- 10k cpm Beckground_ Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm. 56 16,500 87 36 UE 17,300 NE lcapated as Esclusion Zone of other

= exclusion zone bounday NE= Not examtal 51=5lope

Project Name GMO Page 5 of 8 Project # 25585-XI Technician I D Smith 8-15-02 Date Serial No. 126496 Inst. Model Ludlum 2221 Lift Elevation ____ Probe Type: 1'x1"Nal 2"x2" Nal Shielded Not Shielded Action Level 20,680 cpm 6 K-10K ___ cbw Background____ Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm. 5 L 56 16,400 54 NE 6395 18,100 56 SL 5 L NE Prevated as Exclusion Zone Exclusion zone Loundry NE= Not excavatel SL = Slope

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	Project # 25585-XI	Project Name	GMOP	age cof 8
575 Consultanta, Ltd.  Date	8-15-02	Tec	hnician 1 l	Suite
	dlum 2221		meter.	# Probe # 16 168143
Probe Type: 1's	x1"Nal /2"x2" Nal nielded Not Shielded		Elevation	_
Background	6 K-10 K	_ cpm Acti	on Level 10	2, 180 cpm
	nations in circles. Record i			
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Project Name GMO Page 7 of 8 Project # 25585-XI Technician 10 Silver 10 Pro 6c 8-15-02 Date Inst. Model Ludlum 2221 Serial No. Probe Type: 1'x1"Nal /2"x2" Nal'
Shielded Not Shielded Lift Elevation _ Background 6 k - 10 k ____ cpm Action Level 20,680 cpm Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm. (Scale) NE SL SL 6,600 55 84 6,300 56 56 NE NE D Excavated as Exclusion Zone of omer

Exclusion zone boundary NE = Not excavated 51 = 510pe

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	Project # 25585-XI	Project Name _GMO	Page 8 of 8
STS Consultants.	8-15-02	Technician 2	Dente
<i></i>	Ludlum 2221	Serial No. 124	496 168143
	1'x1"Nal /2'x2" Nal Shielded Not Shielded	Lift Elevation	-12"
	6 t- 10t	•	20,680 cpm
Write grid d	esignations in circles. Record lections (if required). Shade ar	highest counts for grid in cpures of elevated counts and rec	L Record 30 second counts cord max cpm.
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		5L 5,600 SL	
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STS Consultants, LI	Project # <u>25</u>	FBS-XI Project	Name GMO	Page _/_ of _C
Date	8-15-02		Technician	D Smith 14   Probe # 196   168143
Inst. Model	Ludlum 222	1	Serial No. 1267	96 168143
Probe Type:	1'x1"Nal /2"x2" Na Shielded / Not Shie	l	Lift Elevation	Surface
Background_	44-104	cpm	Action Level	20,680 cpm
Write grid des	ignations in circles. ctions (if required).	Record highest co Shade areas of ele	ounts for grid in cpm. Revated counts and record	ecord 30 second counts
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STS Consultants, Ltd.	Project # 25585-XI	Project Nan	ne GMO	Page _2	_ of _ 6_
	-15-02		Technician_	mater# /	Probe 3
Inst. Model	11/m 2221		Serial No	126 496	68143
Probe Type: 1's	c1"Nal /2"x2" Nal cielded / Not Shielded		Lift Elevation	n	
Background	4h-10k	cpm	Action Level	20,680	cpm
Write grid design	nations in circles. Record ons (if required). Shade a	highest counts	for gold in c	pm. Record 30 s record max cpm	econd count
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Project Name GMO Page 3 of 6 Project # <u>255**BS**-XI</u> 515 Consultants, Ltd. Technician 10 Snt.

meter# | Probe =
Serial No. 126496 | 168143 8-19-02 Date Inst. Model Ludlum 2221 Probe Type: 1'x1"Nal / 2"x2" Nal
Shielded / Not Shielded Lift Elevation _ Action Level 20680 cpm 4 K - 10 K cpm Background___ Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm. 26 (Scale) 15,300 17,200 51 Pycavated as Exclusion Zone or omer

- Prelusion Zone Loundry NE = Not excavatel SL = Slope

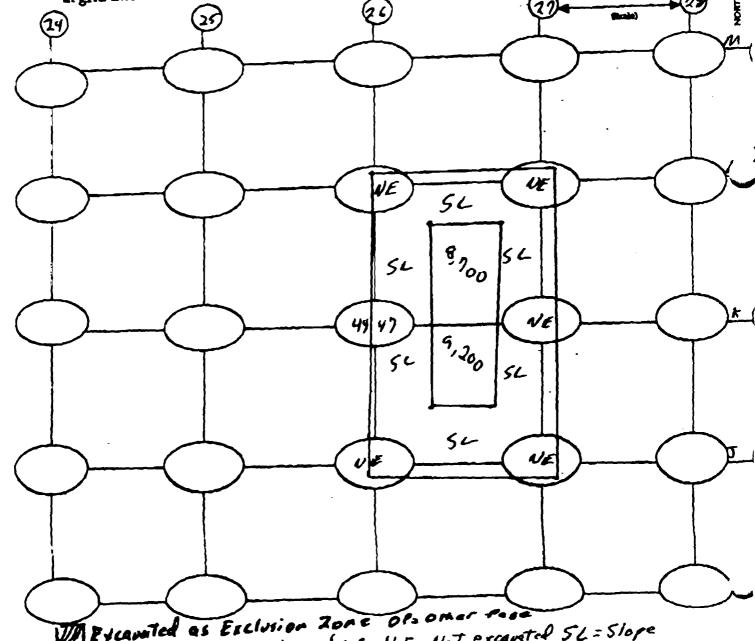
		Project Name GMO	Page 4 of 6
Date	8-15-02	Technician	TD Sile
Inst. Model _	Ludlum 2221	Serial No	126 496 168143
Probe Type:	1'x1"Nal 2'x2" Nal Shielded Not Shielded	Lift Elevation	-4.5'
Beckground_	4 K-10 K	_ cpm Action Level	20,680 cpm
Write grid de	signations in circles. Record is strong (if required). Shade as	highest counts for grid in cp	on. Record 30 second count
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Project Name GMO Page 5 of 6 Project # 25585-XI STS Consultants, Ltd. Technician I & Smith 8-15-02 Serial No. 126496 Date Inst. Model Ludlum 2221 Lift Elevation _ Probe Type: 1'x1"Nal /2"x2" Nal Shielded V Not Shielded Action Level 20.680 4K-10K __ cpm Background_ Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm. (Scale) UE 56 56 13,500 SL H NE 23 61 50 12,300 5L NE

- Prelusion zone Lounday NE-Not excausted 56=5lope

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SB	Project # 25585-X		ON SURVEY FORM  Tame GMO Page 6 of 6
	1-15-02		Technician ID Smith  mater #   Probe #  Serial No. 126 496   168143
- 1 Times 1	x1"Nal/2"x2" Nal hielded Not Shielded	$\overline{)}$	Lift Elevation
	4 K-10K	cpm	Action Level 20, 860 cpm unts for grid in cpm. Record 30 second counts are counts and record max cpm.
Write grid desi at grid intersect	gnations in circles. Rections (if required). Shad	le areas of elev	rated counts and record max cpm.



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	Project # _25585-XI	Project Name _C	MO	Page of _	13
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Inst. Model	dlum 2221			196 AP 16	<u> </u>
Probe Type: 1's	x1"Nal 2"x2" Nal nielded 7 Not Shielded		levation		<del></del>
Background	4k-8k		n Level		chm
Write grid desig	mations in circles. Recordions (if required). Shade	l highest counts for g areas of elevated cou	grid in cpm. I nts and recor	Record 30 second d max cpm.	
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Ga		RADIATION SUR	VEY FORM
	Project # _255@5-XT	Project Name _ GP	10 Page 2 of /2
Date	8/22/02	Technic	meter# Probe #  10. 12496 PRICE143
Inst. Model	Ludlum 2221	Serial N	10. 126496 PR/68/43
Probe Type:	1'x1"Nal /Q"x2" Nal Shielded (Not Shielded)	Lift Elec	ration <u>surface</u>
Background	·4K-8K	_ cpm Action l	evel <u>20680</u> cpm
Write grid de	esignations in circles. Record lections (if required). Shade ar	highest counts for grid reas of elevated counts	l in cpm. Record 30 second counts and record max cpm.
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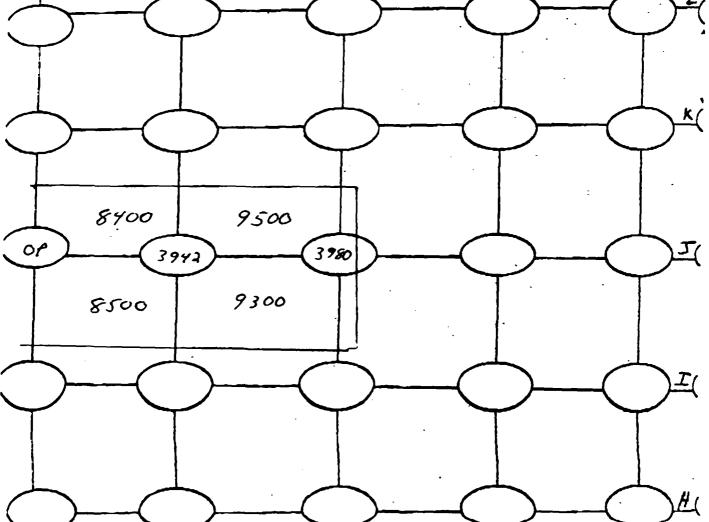
NE - Not examited SL = Slope

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GA	RADIATION SURVEY FORM		
E	Project # 25585-XI	Project Name_GMO	Page 3 of 16
TS Consultants, Ltd.		X .	, , , , , , , , , , , , , , , , , , ,
Date :	8/22/02	Technician	Motor # Prote
nst. Model <u>Lu</u>	dlum 2221		126496 JA168/43
robe Type: 1'x1 Shic	"Nal 2"x2" Nal elded Not Shielded	Lift Elevati	ion
ackground	4k-8k	_ cpm Action Lev	el <u>00,680</u> cpr
Vrite grid design t grid intersection	ations in circles. Record l ns (if required). Shade ar	nighest counts for grid in eas of elevated counts an	cpm. Record 30 second could record max cpm.
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63	RADIATION SURVEY FORM						
	Project # 255@5-XT	Project Name GMO	Page 4 of 12				
\$15 Coundmen, L	<b>±</b> .						
Date	8/22/02		Chen Hober				
Inst. Model _	Ludlum 2221	Serial No	12x496   PR 165/43				
	1'x1"Nal /2"x2" Nal Shielded Not Shielded	Lift Elevation	<u>-1.5'</u>				
Background_	14K-8K	_ cpm Action Level	- 20680 cpm				
Write grid de	signations in circles. Record lections (if required). Shade ar	righest counts for grid in c	pm. Record 30 second counts record max cpm.				
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Vistameted SL=Slope

	55	Project # <u>25585-XI</u>	Project Name GMO Page 5 of /3			
	STS Consultants, I	•	110,000			•
	Date	8/22/02	· ·	Technician	Glen Hub	er
	Inst. Model	Ludlum 2221	: 	Serial No/20	5496 PR	68/43
	Probe Type:	1'x1"Nal 2"x2" Nel Shielded Not Shielded		Lift Elevation	-3	· ·
	Background_	44-84	_ cpm	Action Level	20,680	cpm
	Write grid de at grid interse	signations in circles. Record ections (if required). Shade a	highest cour reas of eleva	nts for grid in cpu ted counts and re	n. Record 30 second max cpm.	nd counts
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63	RADIATION SURVEY FORM				
	Project # 25585-XI	Project Name _GMO	Page _6 of	12	
Date	8/22/02	Technicism	Motors Pro	6/ 6/ 4	
Inst. Model	Ludlum 2221	Serial No	136436 PRIL	(8/43	
Probe Type:	1'x1'Nal /2'x2" Nal ) Stielded Not Stielded	Lift Elevation	on <u> </u>	·	
Beckground	4K-8K	_ cpm Action Leve	20680	_ chan	
Write grid de	esignations in circles. Record lections (if required). Shade ar	righest counts for grid in cess of elevated counts and	cpm. Record 30 second i record max cpm.	·	
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Standard Standard NE : Not excented Standard

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	Project # 25585-XI	Project Name GMO	Page of _/2
STS Consultants, Ltd.  Date	8/22/02	Technician	5km Hober
	11um 2221	Serial No/	Ckn Hber neter# Probe # 12496 PR 168143
	1"Nal /2"x2" Nal		-4.5"
Shi	elded Not Shielded		
Background	4x-8k	_ cpm — Action Level ;	20680 cpm
Write grid design	ations in circles. Record I	nighest counts for grid in cp eas of elevated counts and r	m. Record 30 second counts
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			(Scale)
			,
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S	3	Project # _25585-XI	Project Name	urvey for gmo	M Page 8	# <u>/3</u>
sts com		8/22/02	<b>\</b>	hnician	Skn Hos	Ser 3
	odel Lud	um 2221				<u>(CE / Y 3</u>
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S3	Project # _25585-XI	RADIATION SURVEY Project Name _GMO_	FORM Page 9 of 12
STS Consultants, Ltd.	Lavject 71 American		
Date :	8/22/02	Technician	5km Huber mater# Probe # 106496 R168143
Inst. Model	dlum 2221		
Probe Type: 1'x Shi	1"Nal / 2" Nal ielded / Not Shielded	Lift Elevation	on
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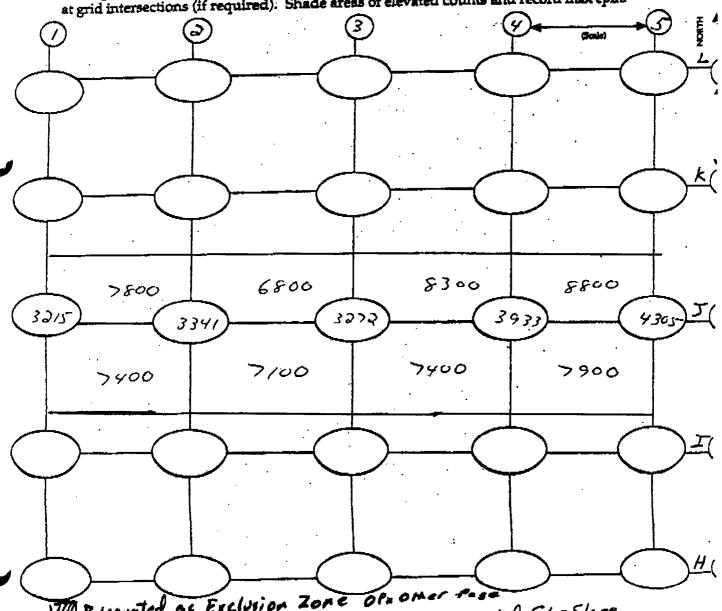
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STS Consultants, Ltd.				
Date			meter # Free &	
0/22/02 Technology 6/24 Hober				
Probe Type: 13	nielded Not Shielded			
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## RADIATION SURVEY FORM Project Name GMO Page // of /d Project # 25585-XI Technician From Hober meter # Probe # Serial No. 126496 | PR 168143 8/22/02 Date Inst. Model Ludlum 2221

Probe Type: 1'x1"Nal 2"x2" Nal Lift Elevation ____ Shielded Not Shielded 14k - 8k cpm 20680 Action Level ___

Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm.

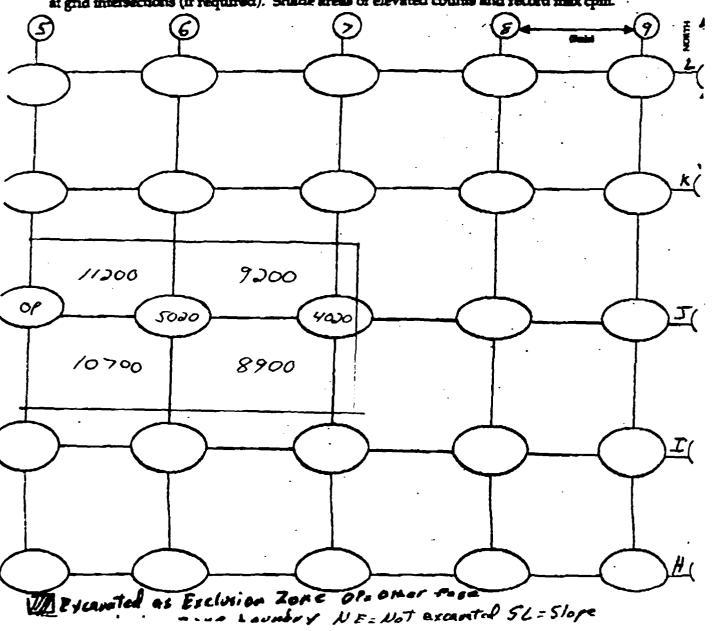


VI Excavated as Exclusion Zone Of omer lucion zone bounday NE= Not executed 51=5lope

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50	Project # _255@5-XI	Project Name GMO	Page	12 d 13
Date	8/22/02	Technician	Gkm	Hober
Inst. Model	11um 2221	Serial No	Mater # 126.496	PR ILE 143
Probe Type: 1'x	ielded Not Shielded	Lift Elevati	on	5
Background	·4K-8K	_cpm Action Lev	20680	cbru

Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm.





		MADIATION SORVE		
	Project # 2558S-XI	Project Name GMC	Page	of <u>6</u>
STS Consultants, Ltd.  Grids 1-4  Date 8-26-	une Grit 4-5 dons 02 8-27-02	Technicia:	Motor # Pr	12 - Se 22
Inst. Model	11um 2221	Serial No.	126 496 16	8143
Probe Type: 1'x1' Shie	Nal (2"x2" Nal Ided (Not Shielded	Lift Elevat	ion <u>Surfact</u>	
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	tions in circles. Record h s (if required). Shade are			nd counts
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Project # 25585-XI Project Name GMO Page 2 of 6  STOCOME TO THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE				
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STB Consultants, Ltd.	Project # 25585-XI			
Date <u>8-2</u>	6-02 8-27-02	Technician	I D Smil	7
Inst. Model 🗘	udlum 2221	Serial No	1110101 4 /	
Probe Type: 1	'x1"Nal /2"x2" Nal hielded / Not Shielded	Lift Elevati	on	•
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			Page _ 4 of _ 6
STS Consideration. L Gride Date 8-	1-4 bis   Grid 4-5 down 26-02   8-27-02	e Technician	1 & Smith
Project # 25585-XI Project Name GMO Page 4 of 6  STS Consultation 1-9 days   Gr. 3 4-5 days   Date			
Probe Type:	1'x1"Nal /2"x2" Nal Shielded / Not Shielded		
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,	20			ct Name _ GMO	Page 5 of	6
	Gride	5 1-4 -m	4-5 done 27-02	T <b>echnicia</b> n	LD Smith	) C 2
	Inst. Model	Ludlum 22:	2/		126 496 168	143
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	VIII ELCAVAL	CA A) PICIALIA		11 to account of	U 51 = 510Pe	

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	Project # 25585-XI	Project Name GMO	Page C or 6
STS Constitute, Let. Grids 1- Data 8-24	-4 4. 6 / Gril 4-5 don 6	Technician	I D Smith
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Busha Tone: 1's	1"Nal /2"x2" Nal		
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4335	Inst Model Ladium 2221  Serial No. 126 496 168 143  Probe Type: 1'x1'Nal 12'x2''Nal Shielded Not Shielded Not Shielded  Background 3 A - 7 A cpm Action Level 20, 680 cpm  Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm.		
11,600	9,100	8,400	12,200
3558	4503	38	143 4276 4
8,600	8,700	7,500	10,100
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2 transfed	as Esclusion Zone	NE= Not Brown	Q5L=Slope

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	Project # 25585-XI	Project Name	GMO	Page of	王
STS Consultants, Ltd.			•		
Date 08	1/24	Tecl	hnician Toby	Shewan	Te S
Inst. Model 1	udlum 2221	Seri	Meter al No. 15194	· <b></b>	64/48
	x1"Nal / 2"x2" Nal nielded / Not Shielded	Lift	Elevation 5	u/face	•
Background_ @	k-144 Unshelled	cpm Acti	on Level · 20	709 Unshielle	_ cpm
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Aundry NE=Not excavated SL=Slope

Project Name GMO Page 2 of 7 Project # 25585-XI Technician Toby Shown \$/26 Dete PR168148 Inst. Model Ludlum 2221 Serial No. 132844 Lift Elevation __-1.5' Probe Type: 1'x1"Nal / 2"x2" Nal Shielded / Not Shielded Background &k-14k unskilled cpm Action Level: 20909 unshielded com Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm. 11000 13000 14200 12000 05 05 03 45 05 Excapited as Esclusion Zone

aundry NE= Not excepted 51=Slope

CC	••	RADIATION SURVEY FORM			
	Project # 25585-XI	Project Name GMO	Page3_ of	:	
STE Consultants, Ltd.  Date	08/26	Technician	Toby Shewan		
	udlum 2221		moter # Pro 132844 PRIC		
	'x1"Nal / 2"x2" Nal hielded / Not Shielded	Lift Elevation	on3'	•	
Background	8K-14K unshieldel	_ cpm Action Leve	1. 20901	_ c <b>b</b> w	
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575 Comb	- ·	Project Name _ GMO	Page 4 of 7
	\$/26	Technicier	moter# Probe
Inst. Model	Ludlum 2221	Serial No.	132844 PR164148
Probe Type	: 1'x1"Nal / 2"x2" Nal Shielded / Not Shielded	Lift Elevati	ion _45'
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	lesignations in circles. Record sections (if required). Shade a		
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### RADIATION SURVEY FORM

Project # 25585-XI Project Name GMO Page 5 of 7

578 Consultante, Ltd.

Date	8/26	

Inst. Model Ludlum 2221

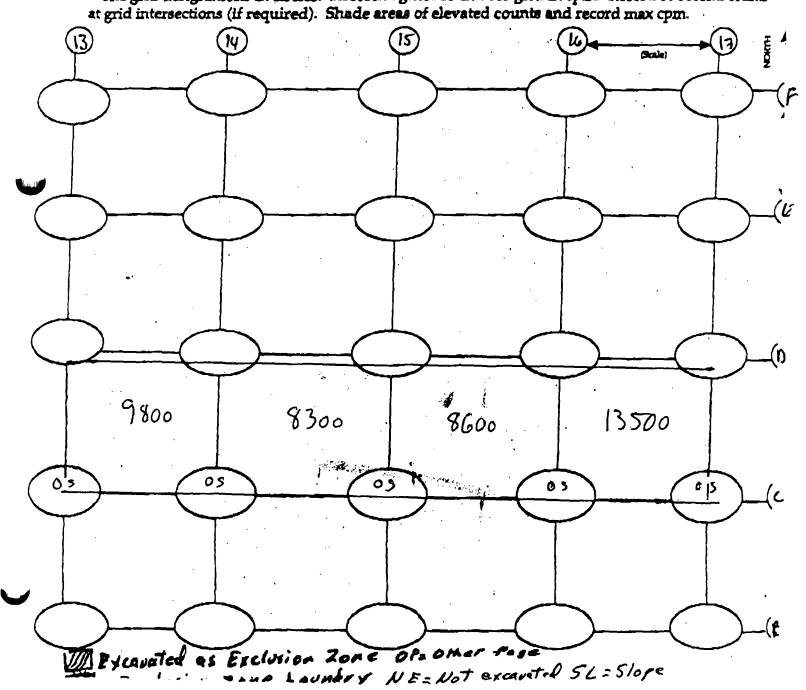
Probe Type: 1'x1"Nal / 2"x2" Nal

Shielded / Not Shielded

Technician Toby Shavan
motor# Prode #
Serial No. 1>2844 (KIG914)

Lift Elevation _____

Background &K - 14 K cpm Action Level 20709 veckilled cpm
Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts



22	Project # 25585-XI	-	ne GMO		of 7
Date	8/26.	· · ·	Technician	Toby Shaven	mbe B
Inst. Model	Ludlum 2221		Serial No. 132	YVY P	R/6 7 148
Probe Type:	1'x1"Nal / 2"x2" Nal Shielded / Not Shielded	•	Lift Elevation	~ <del>7</del> .5 '	•
Background	BR-14K unshielfed	_ cpm	Action Level _	20909 UNI	न्त्रान् cbw
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RADIATION SURVEY FORM Project Name GMO Page 7 of 7 Project # <u>25585-XI</u> STB Consultants, Ltd. Technician Toby Shawan Date 8/16. Inst. Model Ludlum 2221 Serial No. 132844 PR168148 Probe Type: 1'x1"Nal / 2"x2" Nal Lift Elevation Shielded / Not Shielded Background 6K - 14K vashelles cpm Action Level 20909 unshalled com Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm. (Scale) (E \$200 7800 7700 05 05 QS 05 05

LAUNDOY NE= Not excavated 54 = Slope

# 53

		Proje	ect # 25585-XI	Project N	ame GMO	Page	of	
	515 Commun. I Gr:4: Date8	ed 6-1 dine 6-17-02	8-28-02	AC	Technician	JD &motors	mithe #	
	Inst. Model	Ludlum	2221		Serial No.	126496	168143	
;	Probe Type:	1'x1"Nal / Shielded	2"x2" Nal Not Shielded		Lift Elevati	ion <u>Surfac</u>	<u>e</u>	•
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	Project # 25585-XI	Project Name GMO	Page 2 of	2_
Date 8-		Technician	To Smith	<b>3</b>
	udlum 2221	Serial No	126496 1681	43
Probe Type: 1	'x1"Nal 2"x2" Nal hielded Not Shielded		on	
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	Inst. Model Lud	Jun 2221		126496 168	
	Probe Type: 1'x1" Shiel	Nal 2"x2" Nal Ided Not Shielded	Lift Elevat	ion	· 
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	9,400	10,100	12,300	1,800	
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	Project # 25585-XI		Page of
STE Consultante. I Grid Date	- 5-1 done   Grids 7-9 de - 17-02   8-28-02	160,000,000	L D Smith
Inst. Model	Ludlum 2221	Serial No.	126496 168143
Probe Type:	1'x1'Nal 2"x2" Nal Shielded Not Shielded	Lift Elevation	m <u>-4.5</u>
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	(4575) (4	283 38	40) 3614)K
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		Project # 25585-XI	Project Name GMO	Page <u>5</u> of <u>7</u>
	STS Consultants  Grid  Date	1s 5-1 dire   61, de 7-9 de 8-17-07   8-28-02		L D Smith
	Inst. Model	Ludlum 2221	Serial No	126496 168143
		1'x1"Nal 2"x2" Nal Shielded Not Shielded	Lift Elevation	n <u>-6'</u>
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•	55	Project # 25585-	XI Project N	me_GMQ_	Page 6 of	2
	STE Consultanta, Ltd.  Gride  Date  8-	5-9 done 61:4:7-9 27-02 8-28-	done 02	Technician_	L D Smith	ie ¥
		udlum 2221		Serial No	26496 168	
	Probe Type:	1'x1"Nal 2"x2" Nal Shielded Not Shielded			-7.5	
	Background	34-84	cpm	• .	. 20,680	
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	Project # 25585-XI	Project Name GMC	2 Page _ 7_ (	of <u>2</u>
	7-07   8-28-02	Technicia	n L D Smith	
Inst. Model Lu	11um 2221	Serial No.	126496 16	8143
Probe Type: 1'x Shi	1"Nal 2"x2" Nal selded Not Shielded	Lift Eleva	tion	
Background	34-84	_ cpm Action Le	vel 20,680	— chw
Write grid design	nations in circles. Record I ms (if required). Shade ar	nighest counts for grid it	n cpm. Record 30 second nd record max cpm.	ug connis
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	Project # 25585-XI	Project Na	me GMO	Page o	f_7_
STE Consultants. Lt.	8-28-02	<u> </u>	Technician Z	D Smith	6c 2
Inst. Model	Ludlum 2221		Serial No. 126	496 168	113_
Probe Type:	1'x1"Nal /2"x2" Nal' Shielded Not Shielded		Lift Elevation	Surface	·
Background_	3K-8K	_ cpm	Action Level	20,680	_ cpm
Write grid des	ignations in circles. Record in circles. Shade are	highest coun	ts for grid in cpm. ed counts and reco	Record 30 secor ord max cpm.	nd counts
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	Project # _25585-XI	Project Na	me_GMO	Page 2 o	f_2_
Date	9-29-02	algalia medel libra.	Technician Z	D Smit	2
	udlum 2221	<del></del>	Serial No. 126	496 168	7/13
Probe Type: 1	'x1"Nal 2"x2" Nal' hielded Not Shielded		Lift Elevation	-1-5	· ·
Background	3x-8x	_ cpm	Action Level	20,680	_ cpm
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Project # 25585-XI Project Name GMO Page 3 of 7 Technician L D Smith
motor# Probe #
Serial No. 126496 168143 8-28-02 Date Inst. Model Ludlum 2221 Lift Elevation ___ = 3 Probe Type: 1'x1"Nal /2"x2" Nal'
Shielded / Not Shielded Background 3x-8x cpm Action Level 20 680 cpm Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm. 38 80 8,400 OP 3362 7,500 OP OP clusion zone bounday NE = Not excauted 5L = Slope

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Project - 233 B3-A1	Linkert Mantie "Caring" Lake " of
STS Consultanea, Ltd.	
Date 8-28-02	Technician LD Smith
Inst. Model Ludlum 2221	Serial No. 126496 168143
Probe Type: 1'x1"Nal /2"x2" Nal' Shielded / Not Shielded	Lift Elevation 4-5'
Background 3x - 8x	cpm Action Level 20,680 cpm
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	reas of elevated counts and record max cpm.
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### RADIATION SURVEY FORM

Project Name GMO Page 5 of 2 Project # 25585-XI Technician L Smith
meters Process
Serial No. 126496 168143 8-28-02 Date Inst. Model Ludlum 2221 Lift Elevation _____ 6 Probe Type: 1'x1"Nal 2"x2" Nal'
Shielded Not Shielded Background 3x-8x cpm Action Level 20 680 com Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm. 18 9,500 OP 33 7,800 OP Excavated as Exclusion Zone Or omer sion zone Loundry NE = Not executed 5L = Slope

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### RADIATION SURVEY FORM

Project # 25585-XI Project Name GMO Page 6 of 7 Technician LB Smith

motor# Probe #

Serial No. 126496 168/13 8-29-02 Date Inst. Model Ludlum 2221 Lift Elevation ___ 7.5 Probe Type: 1'x1"Nal /2"x2" Nal'
Shielded / Not Shielded Background 3x-8x cpm Action Level 20 680 cpm Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm. 40 43 8,200 OP 30 29 6,900 OP Pycaveted as Esclusion Zone of on - Prelusion zone Loundry NE= Not excepted SL= Slope

Project Name GMO Page 7 of 7 Project # 25585-XI Technician I D Smith
motor# Probe =
Serial No. 126496 168143 8-29-02 Date Inst. Model Ludlum 2221 Lift Elevation ___ Probe Type: 1'x1"Nal 2"x2" Nal'
Shielded Not Shielded Action Level 20 680 cpm 3x-8x cpm Background___ Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm. 31 58 OP 8,300 OP 31 93 1,200 Pycavated as Exclusion Zone Of-omer Prelusion zone Loundry NE= Not excauted 51=5lope

	GR		RADIATION SURVEY FORM  # 25585-XI Project Name GMO Page 1 of 6			
	SIS Coopulation, L	Project # <u>25585-XI</u>	Project Naz	ne GMO	Page o	f_6_
		8-23-02		Technician Z	& Smith	~
		Ludlum 2221		Serial No. 120	496 168	143
	Probe Type:	1'x1"Nal /2"x2" Nal Shielded Not Shielded	-	Lift Elevation _	Sulfac	<u>e</u>
	Background_	4k + 8k	_ cpm	Action Level	20,680	- chw
	Write grid des	signations in circles. Record actions (if required). Shade at	highest counts reas of elevate	for grid in cpm. d counts and rec	Record 30 second max cpm.	id counts
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STS Consultante.	Project # <u>25585-XI</u>	Project Name GMO	Page 2 of 6
Date	8-23-02	Technician_	A D Spite
Inst. Model	Ludlum 2221	Serial No	126496 168143
Probe Type:	1'x1"Nal 2"x2" Nal Shielded Not Shielded	Lift Elevation	n
Background_	44-84	_ cpm Action Level	. 20,680 cpm
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	Project # 255@S-XI	Project Name GMO	Page _ 3 of _ 6		
515 Consultation, LA  Date	8-23-02	•	To Suite		
Inst. Model _	Ludlum 2221	Serial No	126496 168143		
	1'x1"Nal / 2'x2" Nal Shielded Not Shielded	•	<u>-3</u>		
Background	4 x = 8 k	<del>-</del>	20,680 cpm		
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	Project # 25585-XI	Project Name GMO	Page 4 of 6
STS Consultants, Ltd.	8-23-02	Technician	1 D Sin
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•	udlum 2221		/ .
S	'x1"Nal /2"x2" Nal hielded / Not Shielded	Lift Elevation	
	•	_ cpm Action Level _	
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	Date	8-23-02	Technician	motor# Trobe =
		Ludlum 2221		126496 168143
	Probe Type:	1'x1"Nal / Tx2" Nal Shielded / Not Shielded	Lift Elevation	on
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2		oject # <u>25585-XI</u>	Project Na		Page _6	
sts Com Date	jultania, Ltd.	3-02		Technician_	1 & Sm	Protec 2
Inst. N	sodel Ludlus	, 2221		Serial No	126496	68143
	Tyme: 1'x1"Nal				n <u>- 7.5</u>	
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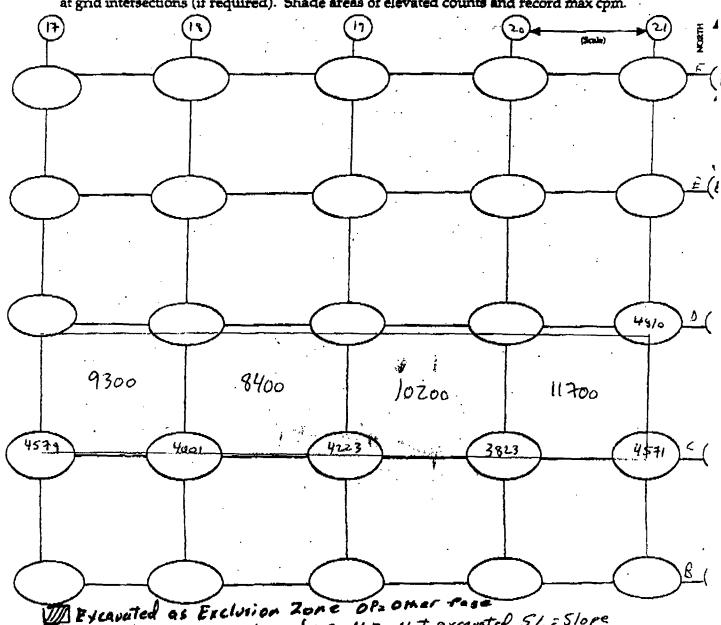
Project # 25585-XI Project Name GMO Page of 7

STS Consultants. LM.	
Date 8/26 .	Technician Ton, Shausa
Inst. Model Ludlum 2221	Serial No. 132144 PRICTIFS
Probe Type: 1'x1"Nal / 2"x2" Nal Shielded / Not Shielded	Lift Elevation Surface
Background 1x-14x' u-skilled cpm	Action Level 20909 cpm
Write grid designations in circles. Record highest coun at grid intersections (if required). Shade areas of elevated	ats for grid in cpm. Record 30 second counts and record max cpm.
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STS Consultanto, Ltd.	Project # <u>25585-XI</u>	Project N	Name_GMO	Page	2 of 7
Date	LC .		Technician	Toby Sh	EWAA
Inst. Model	dlum 2221	;	Serial No	Toby Sh meter# 132744	Probe # PRILSHS
	c1"Nal / 2"x2" Nal ielded / Not Shielded		Lift Elevation	on	
Background\$	K-14K Oushalded	_ cpm	Action Leve	1 20909 1	enshieldel cpm

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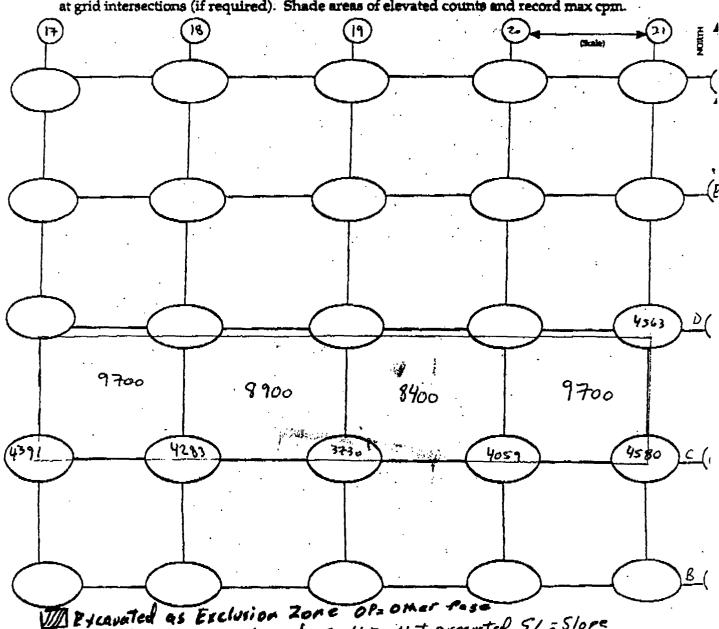
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	STS Consultants		25585-XI I	Project Name	GMO	Page 3	of <u>1</u>
		8/26 .		T	echnician	Toky Shewan	
		Ludlum 2	221			ter# Pr	9 6c 23
	Probe Type:	1'x1"Nal / 2"x Shielded / No		L	ift Elevation _	-3,	***************************************
	Background	9K-14K U	sjkieldet (	pin A	ction Level	20909 vashida	cpm
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STS Consultants,	Project # <u>25585-XI</u>	Project Na	me GMO	Page _	4 of 7
Date	6/26		Technician		
Inst. Model	Ludlum 2221	: ·	9erial No. 13	2844 2844	12164144
Probe Type:	1'x1"Nal / 2"x2" Nal Shielded / Not Shielded	·	Lift Elevation	-4.5'	· ·
Background_	9K-14K GASHIOLIAN	_ cpm	Action Level	20909 0	shalled cpm

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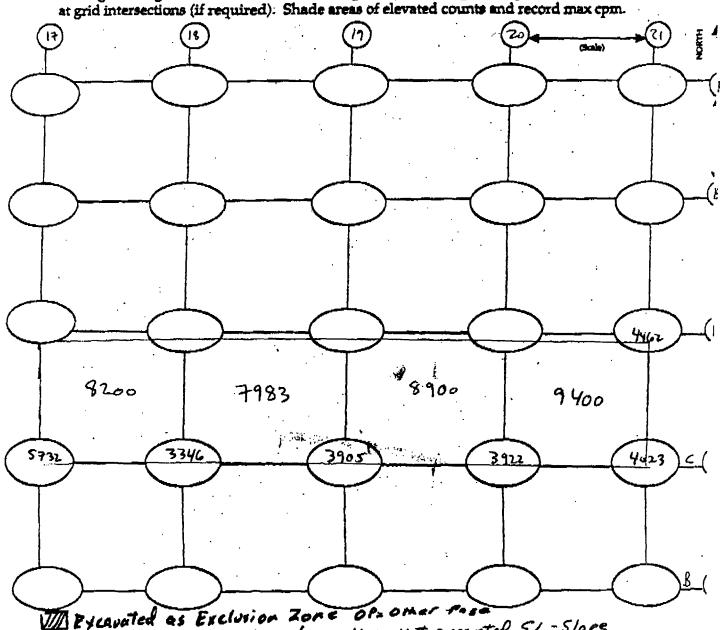


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	•	XI Project Na	ame GMO	Page 5 of 3	<u>-</u>
Date	8/26		Technician To	by Sheum	<b>D</b>
Inst. Model	Ludlum 2221		Serial No. 1324	•	
Probe Type:	1'x1"Nal / 2"x2" Nal Shielded / Not Shielded	l	Lift Elevation	-6'	-
Background	Sk - lyr unsticled	cpm	Action Level	किर्वेष कर्मातिम प्	M
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519 Consultants, 1	Project # <u>25585-XI</u>	Project N	ame_GMO	Page _	6 of 7
Date	8/26	· · ·		Toby Sh	
	Ludlum 2221	:	Serial No	132 944	Probe #
•	1'x1"Nal / 2"x2" Nal Shielded / Not Shielded		Lift Elevati	on <u>-7.5</u>	5 '
Background_	8K-14K undielled .	_ cpm	Action Leve	el <u>20901 u</u>	war charles

Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required): Shade areas of elevated counts and record max cpm.



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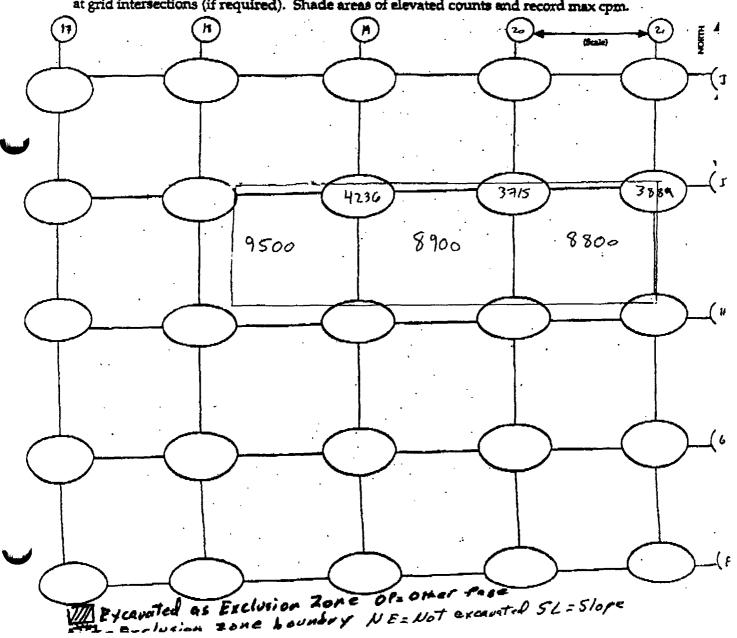
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53	Project # <u>25585-X1</u>		ON SURVEY	FORM Page	2 of <u>7</u>
Date	8/26 Ludlum 2221			merer ar j	Probe &
	1'x1"Nal / 2"x2" Nal Shielded / Not Shielded		Lift Elevation	n <u>-9'</u>	· ·
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Proposed as Exclusion Zone OP2 OMER Page

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STS Consultants, Lad.	Project #_25585-XI	Project Name GMO Page of 6
Date 5/12_	- 8//3	Technician Toby Steven
Inst. Model Lu	1/um 2221	Serial No. 132844   Prote #
Probe Type: 1'x1 Shie	"Nal / 2"x2" Nal lded / Not Shielded	Lift Elevation Surface
Background 1k	- 1412 Unshielded	cpm Action Level 20909 403 Lielled cpm



	ATION SURVEY FORM  t Name GMO Page 2 of C
Dete	Technician Toky Slavken  motor# Probe #  Serial No. 132344 [RIG119]
Inst. Model Ludlum 2221	Serial No. 132344 PRICEITS
Probe Type: 1'x1"Nal / 2"x2" Nal Shielded / Not Shielded	Lift Elevation
Background Sk - 14 k wash alded com	Action Level 20701 unskelled cpm
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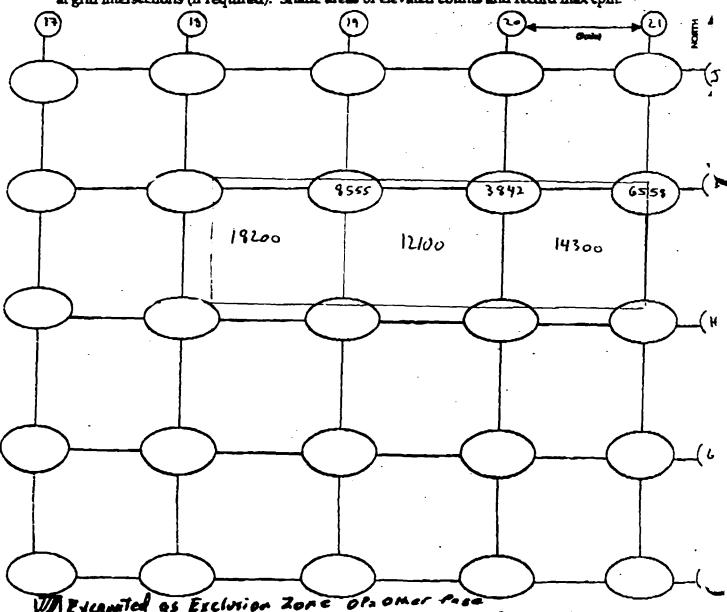
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	Project # 25585-XI Project Name GMO Page 3 of C
STS Consultants, Ltd.  Date4//	Technician Tob. Steway
	udlum 2221 Serial No. 132 844 Pro de 2
Probe Type: 1	'x1"Nal / 2"x2" Nal Lift Elevation3' hielded / Not Shielded
Background	cpm Action Level 20909 unskelled cpm
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## RADIATION SURVEY FORM

STS Countries, Ltd.	Project # 25585-XI	Project NameC	MO Page	4 of 6
	\$/0	Tech	nician Toba S	Lerra
	dlum 2221	Seria	moter#	Probe # PRICTIYS
	:1"Nal / 2"x2" Nal ielded / Not Shielded	Lift E	levation4.5	
Beckground	K-14K unshielded	_ cpm Actio	n Level 20909	enskielled com

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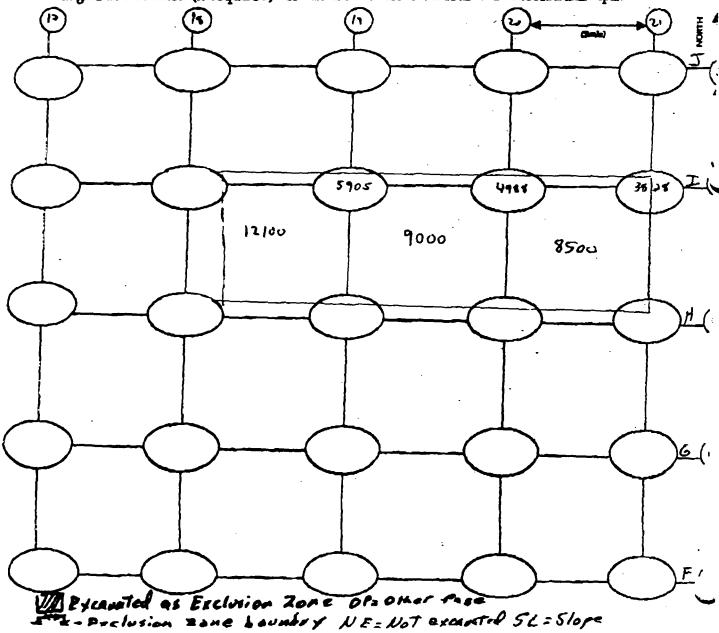
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	Project # <u>25585-XI</u>	Project Name _GMO	Page 5 of 6
515 Consultants, I			
Date	12 - 8/13		Toly Shewan
Inst. Model _	Ludlom 2221	Serial No	**************************************
Probe Type:	1'x1'Nal / 2"x2" Nal Shielded / Not Shielded	Lift Elevation	on
Background_	BL - 14K ' unshields	_ cpm Action Leve	1. 20909 unshielded cpm
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	Project # 25585-X1	Project Name GMO	Page_	6 of 6
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Date :	8/1L - 5/13	Technician	Motor # 132544	llun
			meter #	Probe =
Inst. Model	Ludlum 2221	Serial No.	132544	PRICEIVE
	1'x1"Nal / 2"x2" Nal Shielded / Not Shielded		on <u>-75'</u>	
Background_	SR - MA ' webelled	cpm Action Lev	ei <u>20109</u>	marialed chau



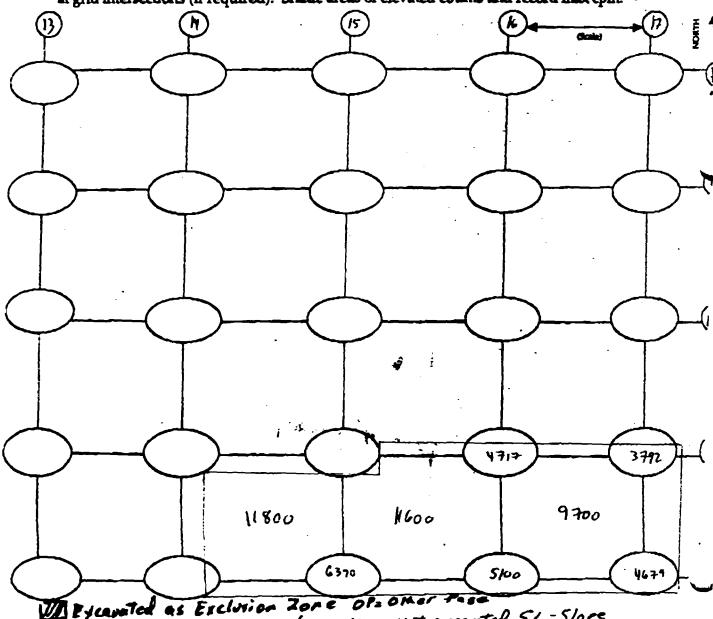
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		roject#_2	585-XI	Project N	THE GHO	P	age of	<u>7</u>
Date	6-F/15-16 8/15	E-F/13+4 08/20	6-8/14-17 0-8/14-17 8/21		Technician	Tol	Shevan	
		فيصات تقسط المستوريد		;		meter:	# Pro	e H
Inst. Model		•	•	<del></del>	Serial No.			149
Probe Type:	1'x1"Na Shielde	al / 2"x2" N ed / Not Sh	ielded		Lift Elevati	ion <u>surf</u>	ica	
Background	BK-	14 K	· .	_ cpm	Action Lev	र्ध २०१	9 unshielled	_ cpm
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### RADIATION SURVEY FORM

E.		Project#	25585-XI	Project Name GMO	Pag	e 2 of 7
	6/17-le 1/5	E-F/15# 4/10	2-9/6-17 8-0/A-17	Technician	Tst.,	Yesa
Inst. Model			221	Serial No.		
Probe Type	: 1'x1'T	Ial / 2"x2		Lift Elevation	_1	_ (
Background	82	14 L U	ak ellel	_ cpm Action Leve	20907	unskiddd cpm

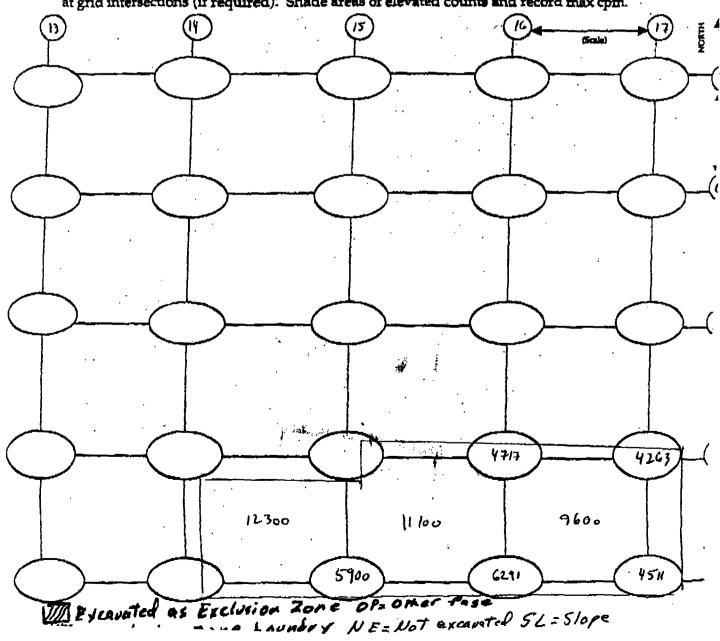
Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm.



LAUMBOY NE= NOT excepted 51=510pe

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	Project#_	5585-XI	Project Name	GMO	Page .	3 of +
575 Consultante, Ltd. +.6/13-46	2-1/3·N	2-0/16-17 0-5 14-17	N.			
Date \$/15	5/20	961	Te	echnician		eurn
			, ,		meter #	Probe 4
Inst. Model Luc	11um 22	.21	Se	rial No.	mater # 132844	PRILETYS
Probe Type: 1'x1'	"Nal / 2"x2"	Nal	Li	ft Elevati	ion <u>-3</u>	
Shie	lded / Not S	hielded		•		
Background 8	k-14k un	shielled	com Ac	tion Lev	el 20909 u	esticited cpm

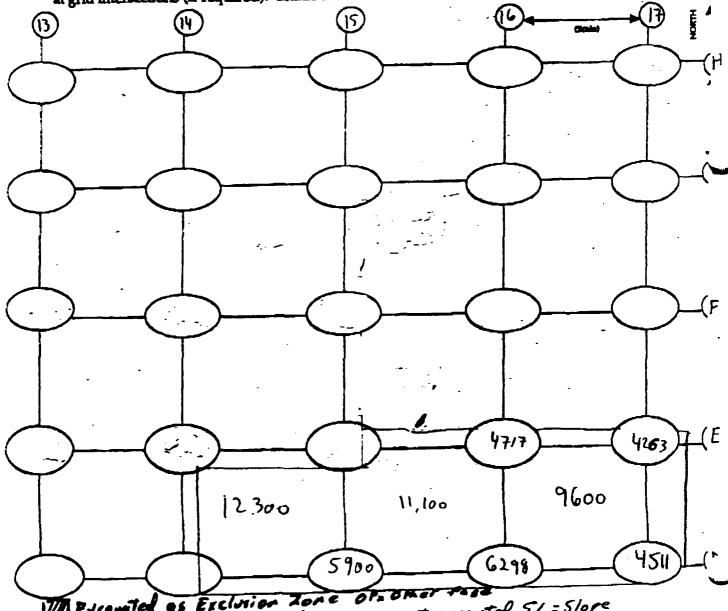


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# RADIATION SURVEY FORM

	Project #_2	SSRS-XI	Project No	eme GMO	Pag	e <u>S</u> of <u>Z</u>
STS Convoluents, UM.	F/15-lo p-8/15-14	£-0/16-17 £-0/M-17			·	
Date		8/21	·	Technician	Toby 5	Probe #
Inst. Model 1	udlum 22	21		Serial No	1>284	PR 168148
Probe Type: 1	'x1"Nal / 2"x2"	Nal		Lift Elevation	2 '	
Background 1	K-14K 'vashdle	<u> </u>	_ cpm	Action Leve	1. 20,909	unskielled cpm

Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm.



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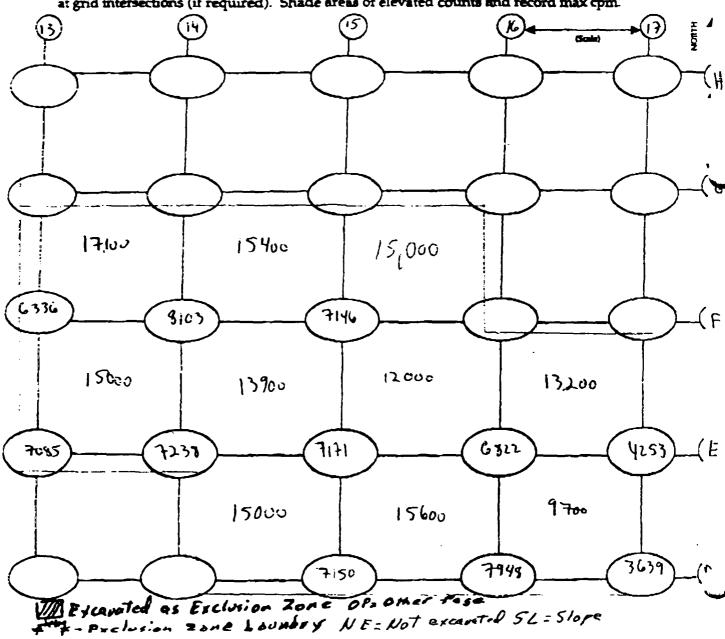
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	Project # 25585-XI	Project Name _GM	Page 1	_of
STS Consultants, Ltd.	16 F-E/15-14 E-0/14-1	•	ti si.	
Date . 8/15	8/20 8/21		<i>f</i> 710147 47 /	ro ac #
Inst. Model	11um 2221	Serial No	). 1328YY	P. 167144
Probe Type: 1'x1 Shie	l"Nal / 2"x2" Nal elded / Not Shielded	Lift Eleva	ation	·
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MA Proported o	s Exclusion Zone	OP OMET PAGE		

Exclusion Zone Loundry NE : Not excavated 5L = Slope

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### RADIATION SURVEY FORM

	P	roject # _ <u>25</u>	SAS-XI	Project l	Name <u>GMO</u>	Pag	25 of Z
STS Congraduate	6-F/13-K	F-E/()-M	C-0/16-17				
Date	05/15	Caje	E-0/M-17		Technician	Toby	Shewan
						meter #	Pro be 3
Inst. Model	Ludlo	m 22	2/		Serial No	137244	FR 165118
Probe Type	: 1'x1"Na	al / 2"x2" N	al		Lift Elevation	n	
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	Pı	oject # <u>25585</u> -	<u>-XI</u> Proje	ect Name _ G	MO	Page 6 or	f_Z_
Date	8/15-16 8/15	08/ <b>30</b> 08/ <b>30</b>	C-0/16-17 E-8/14-17 O5/21	Y.	cian Toly	Shewan	<b>5</b> € \$
Inst. Model _	Ludlu	m 2221		Serial I	Mo.   328	YY PR-	
Probe Type:	1'x1"Na Shielde	l / 2"x2" Nal d / Not Shielded	i	Lift Ele	vation	7.5	•
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	GR	RADIATION SURVEY FORM							
		Project # 25585-XI	Project Name _GMC	2 Page	of $Z$				
			C-9/K-17 E-9/K-17 DELL Technicia		be T				
	Inst. Model Luc	10m 2221	Serial No.		-163148				
	Probe Type: 1'x1' Shie	'Nal / 2"x2" Nal lded / Not Shielded	Lift Eleva	tion9'	· · · · · · · · · · · · · · · · · · ·				
	Background 4-11/	ડાસોર્	_ cpm Action Le	vel - 20,907	cbw				
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		10900	12,100	9700					

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	7	RADIATION SURVE	Page 1 of 7
Date 8/12-13 5		E/12-21 /21 Technician	meter# From #
Probe Type: 1'x1	1/0m 222/ 1"Nal / 2"x2" Nal elded / Not Shielded	<del></del>	132844 PR168148
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Project # 25585-XI Project Name GMO Page 2 of 7

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Date Varis	8/15 3/m 8/19	vi s-t//str vi Technicist	mater #   Probe #
Inst. Model Lu	11um 2221	Serial No.	
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	ations in circles. Record has (if required). Shade are		cpm. Record 30 second counts and record max cpm.
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	Project # <u>255<b>85</b>-XI</u>		me GMO		3 of 7
STS Consultants, Ltd.  6-4/19-21  Date 6/12-/3	F-6/H20 8-H/182 8-P/ 8/15 8/16 8/P	(17-2) p-8/19-4)	Technician	meter#	•
Inst. Model Lus	11um 2221	<del></del>	Serial No		PL168148
Probe Type: 1'x1 Shie	"Nal / 2"x2" Nal lded / Not Shielded		Lift Elevation	on	
Background	K-14K' Yoskiller	cpm	Action Leve	1 - 20707 00	skiellel cpm
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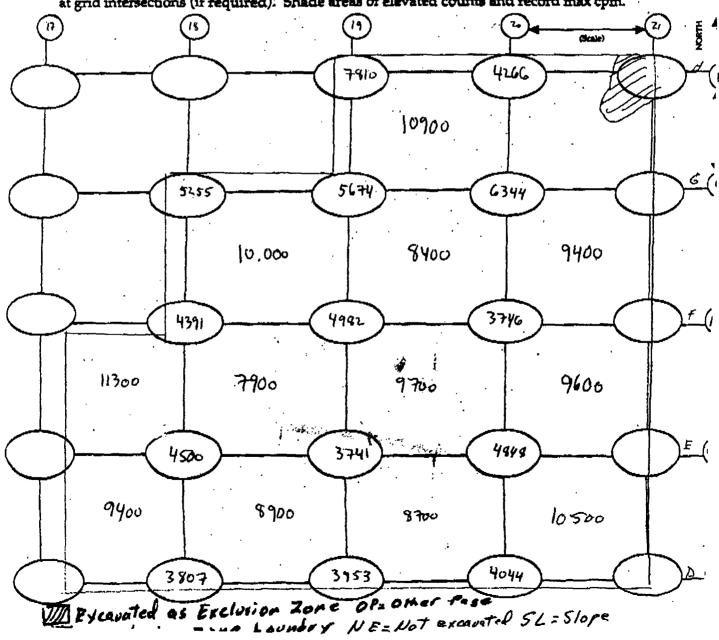
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	Project # 25585-XI	Project Name _GMC	Page 4 of 7	•
	1/1940 E-0/1940 E-1/1940 E-1/19 1/18	₽6kow	motors Probe 3	
Probe Type: 1'x1'	·		ion -4.5'	
Write grid designa	tions in circles. Record b	righest counts for grid in	rel <u>logon matellel</u> cpm cpm. Record 30 second counts	;
at grid intersection	s (if required). Shade are	eas of elevated counts at	nd record max cpm.	
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	Project # 25	BS-XI	Project N	ame GMO Page	5 of 7	
STS Consultants, Ltd.		•				
Date \$/12-13	8/15 8116	E-147-01 8/19	\$/21_	Technician Td. She	With	
			,	meter#	Probe 1	
Inst. Model	11um 222			Serial No. 172844	PRKSIVS	
Probe Type: 1'x	1"Nal / 2"x2" Na ielded / Not Shie	1		Lift Elevation		
Background q	K-14K'	· · ·	_ cpm	Action Level 20101	washedded cpm	

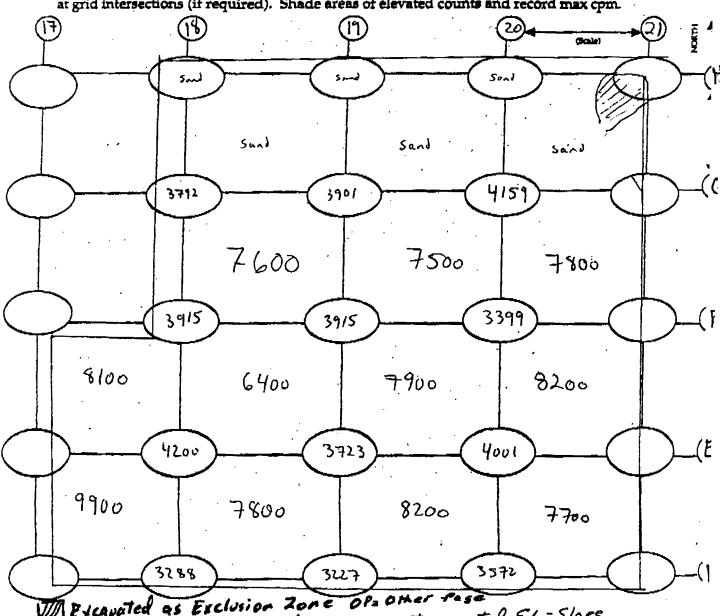


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	Project # 25585-XI	Project Name _GH	O Page 6	of $\frac{7}{}$
Date 1/2-13	8-0/10-20 8-10/15-70 8-0/19 8/15 8/16 8/19	ght Technici	meter # / Pr	6c 3
Inst. Model Lud	lum 2221	Serial No	• •	6 7/48
Probe Type: 1'x1'7 Shield	Nal / 2"x2" Nal ded / Not Strielded	Lift Hlev	etion <u>"7.5"</u>	•
Background 41	-uk	_ cpm Action L	evel 20709 unstabl	cpm
Write grid designat	ions in circles. Record ! (if required). Shade an	dghest counts for grid	in cpm. Record 30 second and record max cpm.	and counts
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	Project # 25585	<u>-XI</u> Project N	ame_GMOPag	e 7 of 7
STS Consultants, Ltd. 6-449-21 Date \$//2-15	F-6/19-20 E-4/19-20 8/15 8/10	E-FIA-4 0-6/17-21 8/19 42-1	Technician Tob.	Slavan
<u> </u>	11um 2221	:	Serial No. 132844	PR 168148
Probe Type: 1'x1 Shie	"Nal / 2"x2" Nal lded / Not Shielde	d	Lift Elevation9	
Background 8K	-14K ' unshidled	cpm	Action Level 20,90	g castidad com

Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm.



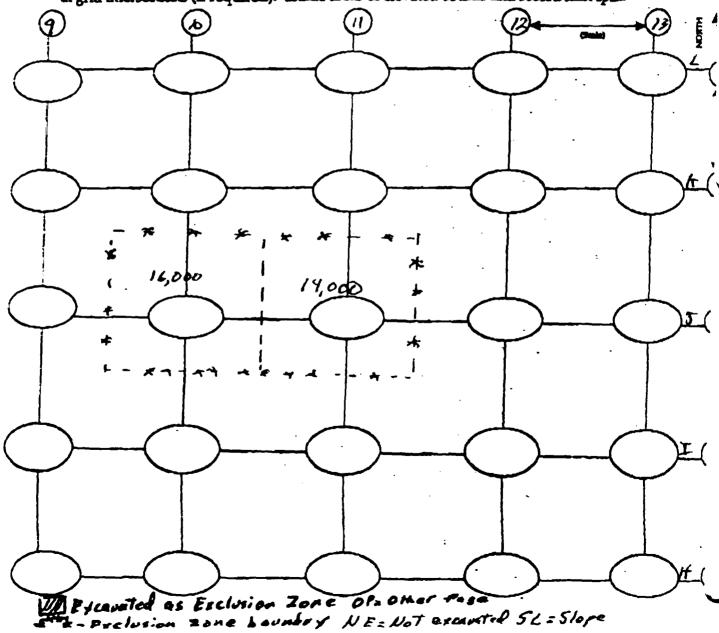
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## RADIATION SURVEY FORM

Project # 25585-XI	Project Name GMO Page 1 of 1
STS Coupulmans, Ltd.	-1 D l -4
Date <u>8-26-02</u>	Technician LD Smith  mater st France Serial No. 126496 168143
Inst. Model Ludlum 2221	Serial No. 126496 166143
Probe Type: 1'x1"Nal (2"x2" Nal ) Shielded (Not Shielded)	Lift Elevation <u>fie EPA</u>
Background 4th-10t	cpm Action Level 20, (90 cpm



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Project # 25585-XI Project Name GMO Page  STS Consultants, Ltd.  Date 9-3-02 Technician ZD Serial No. 126496	•
	Ruill
Date       9-3-02       Technician       Z D S         Inst. Model       Ludlum       2221       Serial No. 126 496	with
Inst. Model Ludlum 2221 Serial No. 126 496	1 Pro be 3
	168143
Probe Type: 1'x1"Nal /2"x2" Nal Shielded Not Shielded  Lift Elevation 500	Face
Background 44-84 cpm Action Level 20, 6	680 cpm
Write grid designations in circles. Record highest counts for grid in cpm. Record at grid intersections (if required). Shade areas of elevated counts and record max of	
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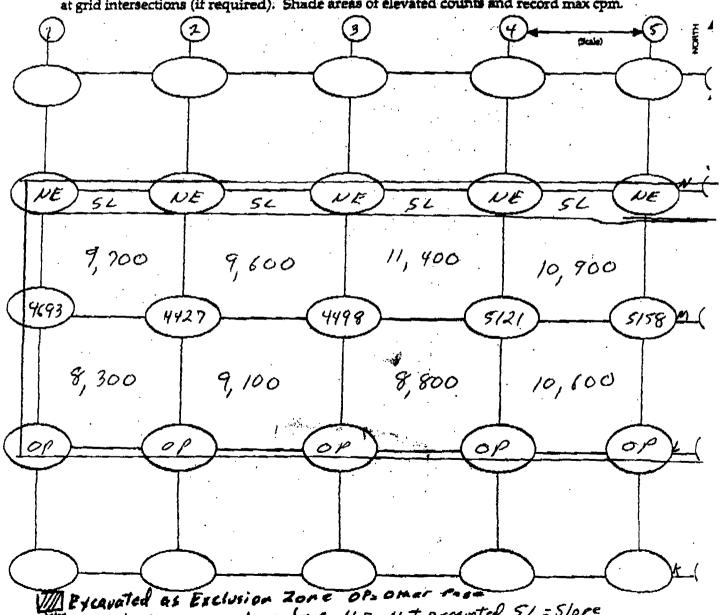
Proported as Exclusion Zone boundary NE= Not excaveted 5L= Slope

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	Project # 25585-XI	Project Name _GMO	Page 2 of 6	
STS Consultana, Ltd.  Date 9	- 3-02	Technicier	Motor # Proce 3	
<del>-</del>	udlum 2221	Serial No.	120496 118143	
Probe Type: 1'S	x1"Nal /2"x2" Nal nielded (Not Shielded)	Lift Elevati	$\frac{-1.5'}{}$	
Beckground	44-84	_ cpm Action Lev	el: 20,680 cpm	
	nations in circles. Record I ons (if required). Shade an		cpm. Record 30 second counts	
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	RADERION DURVET TORRI				
	Project # <u>25585-XI</u>	Project Nat	me GMO	Page 3 of 6	
STS Consultants, Ltd				7 N D 11	
Date	7-3-02	· ·	Technician_	meter # Proce #	
Inst. Model	udlum 2221		Serial No.	LD Suith motor#   Proce # 120496   168143	
Probe Type:	1'x1"Nal /2"x2" Nal Shielded Not Shielded		Lift Elevation	2/	
Background	41.81	_ cpm	Action Level	20,680 cpm	
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Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm.



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63		RADIATION SUR	VEY FORM
STS Consultanea. Ltd.	Project # 25585-XI	Project Name _G	Page 4 of 6
	3-02	Techni	motor# Proce #
Inst. Model Lu	dlum 2221	Serial 1	Motor# Prode # No. 120496 168143
Probe Type: 1'x	1"Nal /2"x2" Nal ielded Not Shielded	Lift Ele	evation $-4.5^{\prime}$
Background	41-81	_cpm Action	Level: 20,680 cpm
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	Project # 25585-XI	Project Name_	GMO	Page 5 of	_6_
575 Consultante, Ltd.					
Date 9.	3-02	Tec	hnician Z	D Suith	le #
Inst. Model	dlum 2221			D Suith 496 168	143
Probe Type: 1'x Sh	a"Nal /2"x2" Nal ielded Not Shielded	Lift	Elevation	-6'	
Background	41.81	_ cpm Acti	ion Level	20,680	_ cpm
Write grid design	nations in circles. Recordons (if required). Shade a	highest counts for reas of elevated co	grid in cpm. I	Record 30 secon	वे ट्रामध
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Ga	RADIATION SURVEY FORM			
	Project # 25585-XI	Project Name GMG	Page 6 of 6	
STS Consultants. 1 Date	9-3-02	Technician	motors   Probe &	
Inst. Model	Ludlum 2221	Serial No.	120 496 18143	
Probe Type:	1'x1"Nal /2 x2" Nal Shielded Not Shielded	Lift Elevat	ion 7.5"	
Background_	41-84	_ cpm Action Lev	el: 20,680 cpm	
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SS	Project # <u>25585-XI</u>		Name_GMO_	4	of_7
Date 5/13	K-L/JL-13 k-5/16-16 9/3	K.L/13-16	Serial No	1	n 0 0 2 3 0 1 1 4 8
Probe Type: 1'x1". Shiel	Nal / 2"x2" Nal ded / Not Shielded			1 <u>Su/fau</u>	
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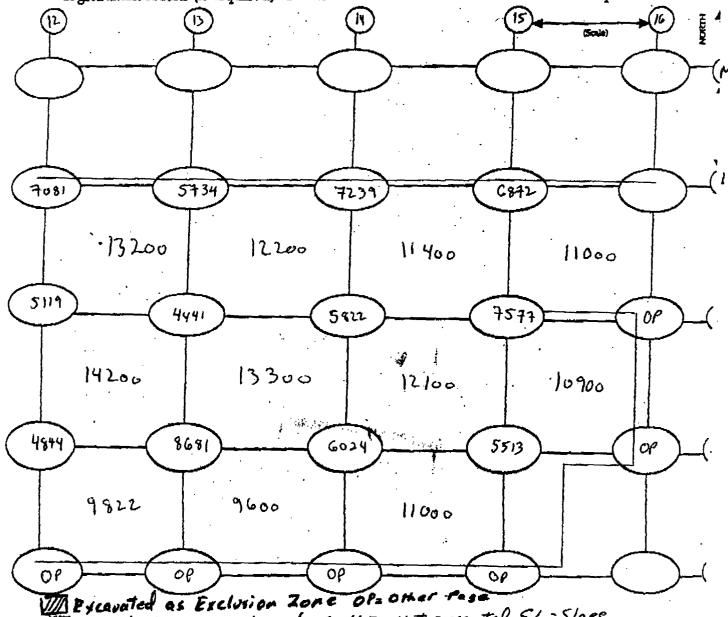
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	Project # _25	585-XI Project N	lame GMO	Page 2 of	<u> </u>
DateInst. Model _	1.5/1:-18 8/12-N 8/12-N Ludlum 22:	K-L/R-B K-3/N-b K-L/13-16 9/3 9/4	Technician To mot Serial No. 132		
Probe Type:	1'x1"Nal / 2"x2" N Shielded / Not Shi	al ielded	Lift Elevation	-1.5'	· ——
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	Project # _2558\$	-xt Project N	lame GMO Page 3 of 7
575 Consultants, Ltd. 2 - 3 / 12 - 14 K-3 / 12 - 14 Date 5/22		K-L/15-16	Technician Toby Shake
Inst. Model	lum 2221		Serial No. 132844 PA168148
	"Nal / 2"x2" Nal lded / Not Shielde	ed	Lift Elevation3'
Background 8	K-124K UNSHielded	cpm	Action Level 20909 Unskieldel cpm

Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm.



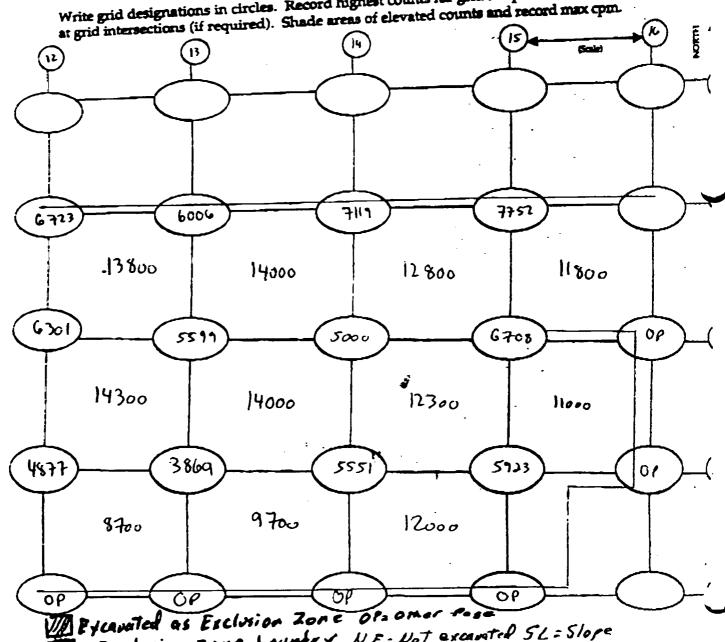
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	Name GMO Page 4 of T
Project # 25585-XI Project :  STS Committee Link	Technician Toby Shulan Probe 2
Inst. Model Ludlum 2221	Serial No. 132844 (RIGSTY)  Lift Elevation - 4.5'
Probe Type 1'x1"Nal / 2"x2" Nal Shielded / Not Shielded	Action Level 20707 unshield cpm

chw 8K-1XK unstalled Background

Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm.



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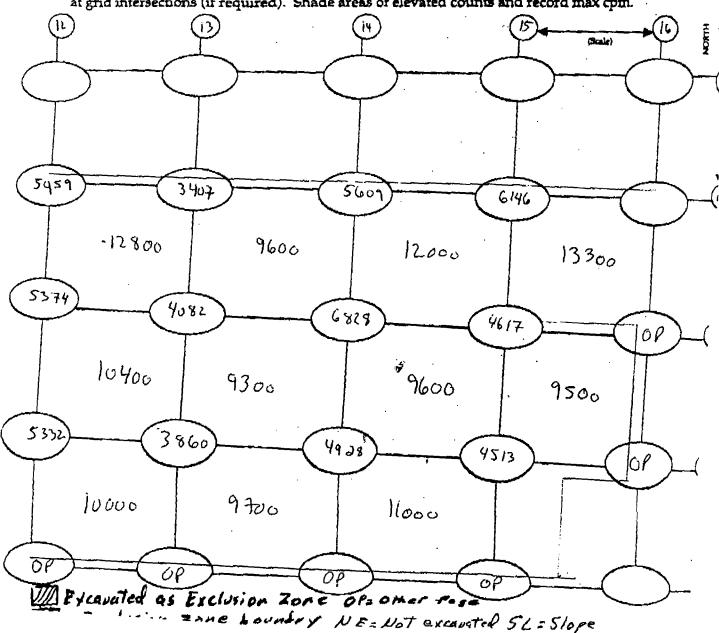
	Project # 25585-XI	Project Name GMO Page 5 of 7
STS Consultants, Ltd.	K-L/12-13	K-4/13-10

1.5/12.14 8/12.4 9/3 Technician_ 914 Date meter # Serial No. 132 844 PR168148 2221 Inst. Model Ludlum Lift Elevation

Probe Type: 1'x1"Nal / 2"x2" Nal Shielded / Not Shielded

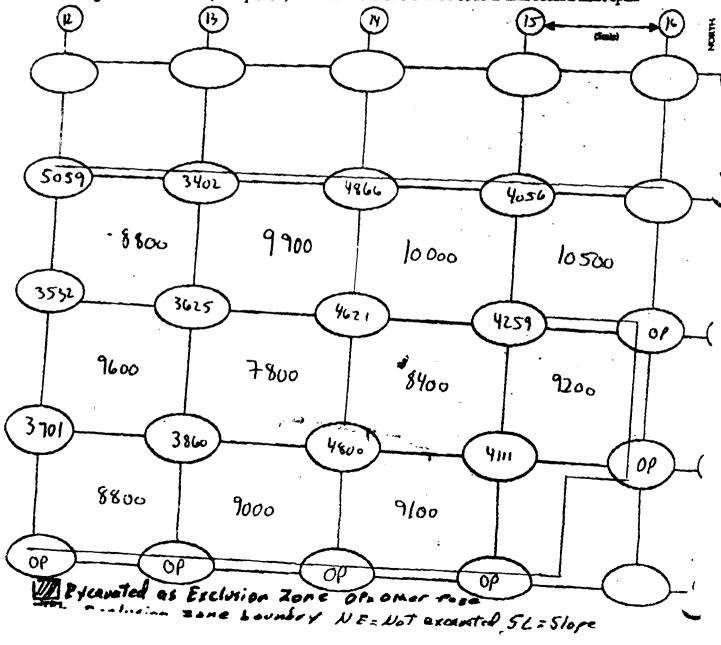
Action Level 20909 unskilled cpm BK-IHK VASLIELE Background_

Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm.



Project # 25585-XI Project N	Name GMO Page 6 of 7
518 Complete Ltd.  2.5/n.15  2.5/n.15  2.5/n.15  8.5/n.16  8.7/n.16  1.7/1  Date 8/23  9/3  1/4	Technician Toly Shaws
Inst. Model Ludlum 2221	Technicism Toby Shaves  motor# Probe **  Serial No. 132444 PRICKING
Probe Type: 1'x1"Nal / 2"x2" Nal Shielded / Not Shielded	Lift Elevation
Background &k- IUK vasheldet cpm	Action Level 20909 washielderpm

Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max com.



### RADIATION SURVEY FORM Project Name GMO Project # 25585-XI Technician_ 4-4/13-16 K-6/12-13 K-1/12-16 9/4 (F16) 148 Serial No. 152844 Inst. Model Ludlum 2221 Lift Elevation Probe Type: 1'x1"Nal / 2"x2" Nal Shielded / Not Shielded Action Level 20909 while cpm __ cpm 8K - 14'K Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts Background_ at grid intersections (if required). Shade areas of elevated counts and record max cpm. (Scale) 3834 754 4517 3 8 3 6 4517 3874 3511 8900 8700 10,000 7900 4020 4720 3621 4281 OP 9000 8200 8600 7800 3711 4771 4281 4384 OP 9100 7700 8700 CP

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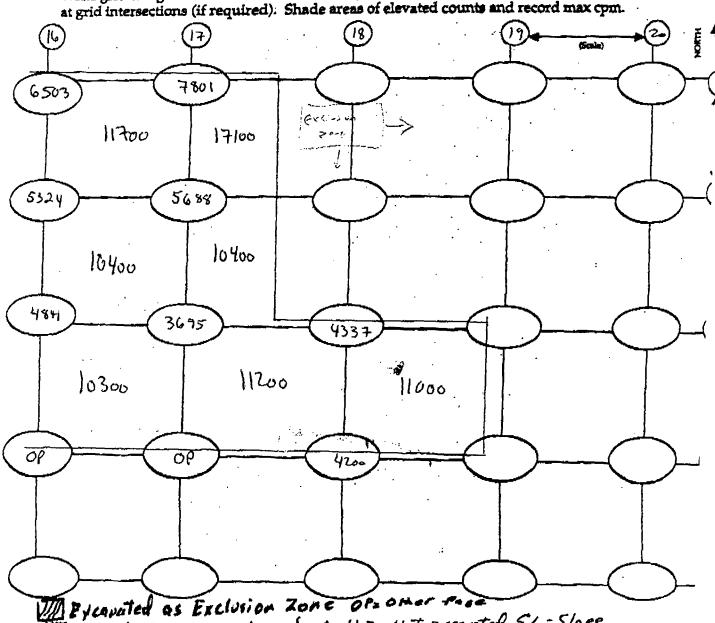
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	Project # _2	55 <b>45</b> -XT Project	Name GMO Pa	on 1 of 6
Date	•	· ·	Technician Tol., 5  meter a  Serial No. 132174	Leven
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	Project # _25585-XI	Project Name GMO	Page L of 6
STS Consultants, Lt	2 1-1	Technician	Tol- Shewn
Date 1/2	Ludium 2221	Serial No	Toi, Shewer meter# Protes# 132844 PRIG8148
Probe Type:	1'x1"Nal / 2"x2" Nal Shielded / Not Shielded		on1.5'

Action Level 20909 UNSHILL COM BK-14K unshielded Background_

Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm.



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Ga	RADIATION SURVEY FORM				
	Project # 25585-XI	Project Name _GMO	Page 3 of C		
SIS Consultana, Ltd. I - 3 Date 4/L7	9/4	Technician	Motor # Probe #		
Inst. Model	11 Jun 2221		132844 PAICHING		
Probe Type: 1's	cl"Nal / 2"x2" Nal ielded / Not Shielded	Lift Elevation	m		
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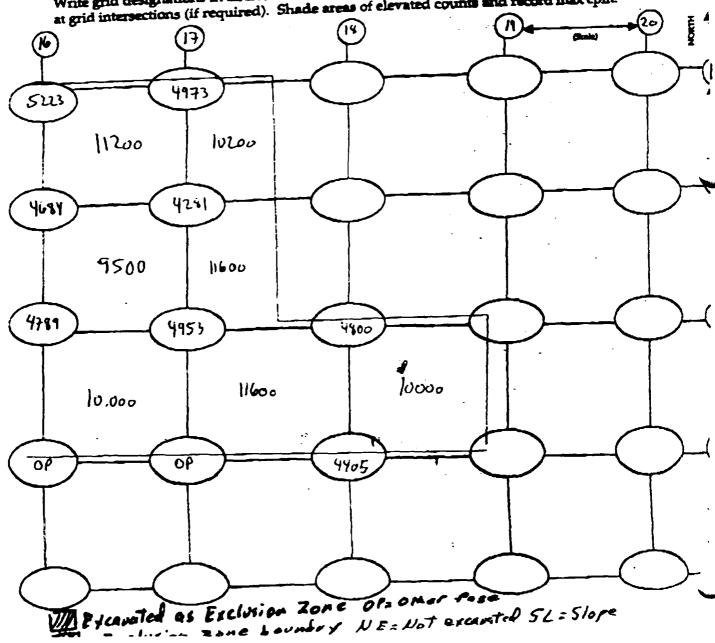
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	Project # 25585-XI	Project Name GMO	Page of G
STS Consultants, Ltd. L ~	5 <b>J</b> -L		
Date 8/2		Technician	Toby Slatter Probe =
Inst. Model 🗘	udlum 2221	Serial No. 19	2844 PRIG 144
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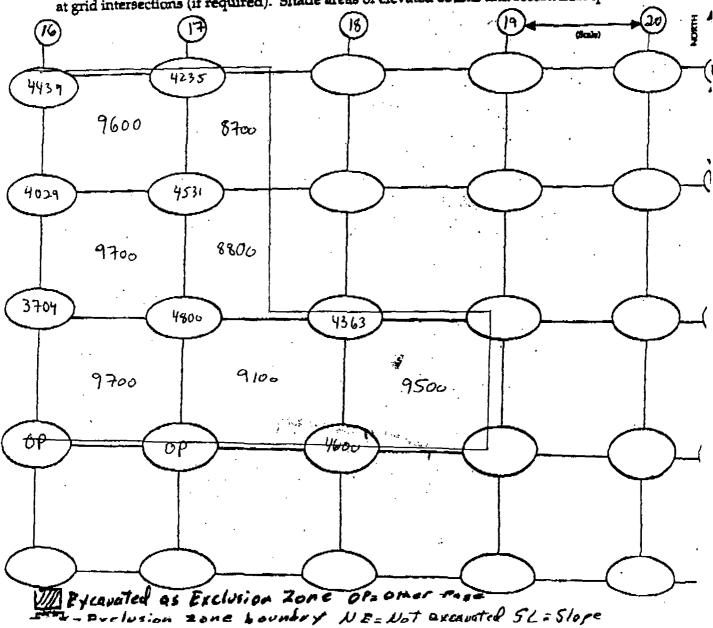
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STS Congulation, La	Į-J		Technician Tob. Slave Probe #  Serial No. 132844 PRIORING
Date	8/27 9/4		meter #
	Ludlum 2221		Serial No. 132849 TERRITA
Inst. Model _	A TOM		Lift Elevation
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55	Project # 25585-XI	Project Name _GMO	Page _	<u>6</u> of <u>6</u>
STS Consultants, Ltd.	5 J-L	Technician	Tol. Step	tar
Date	17 1/4		Tol. SLL moter# 132844	Prode 2
Inst. Model 🗘	udlum 2221	<del></del>		18/91/1
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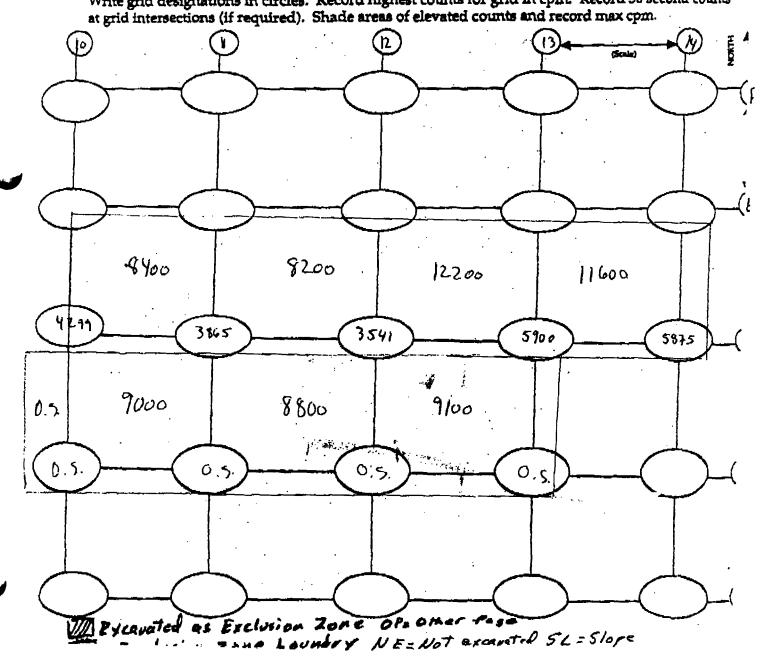


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# RADIATION SURVEY FORM

		Project # 25585-XI	Project Name GMO	Page of
	Date 1/4 1/23  Inst. Model Lu	12-13 C-0/12-15 C-0/1	727/02 Technician	mater# Probe # 132844 PRIGRIYE
	Probe Type: 1'x	1"Nal / 2"x2" Nal ielded / Not Shielded		ion <u>surface</u>
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9-5/10-14 c-0/12-13  Date 1/12 4/2-7	C-0/n-13	C-0/10-12 4/29	Technician Toly Sleven
Inst. Model Ludlum		:	Serial No. 132844 PRIGRIYS
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Inst. Model Ludlum

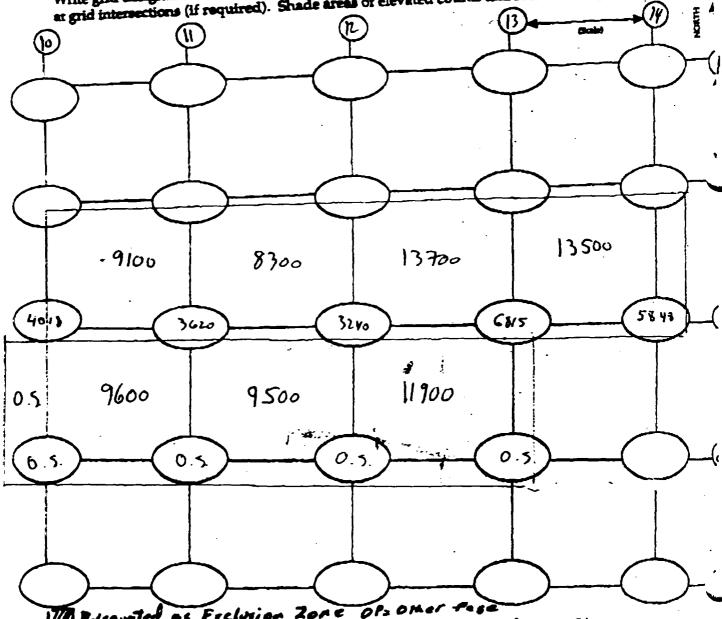
Probe Type: 1'x1"Nal / 2"x2" Nal Strielded / Not Strielded

Background BK-14 K unshalled cpm

Technicien. **KK114**6 Serial No. 132444 Lift Elevation .

Action Level 20109 wskelde com

Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max com.



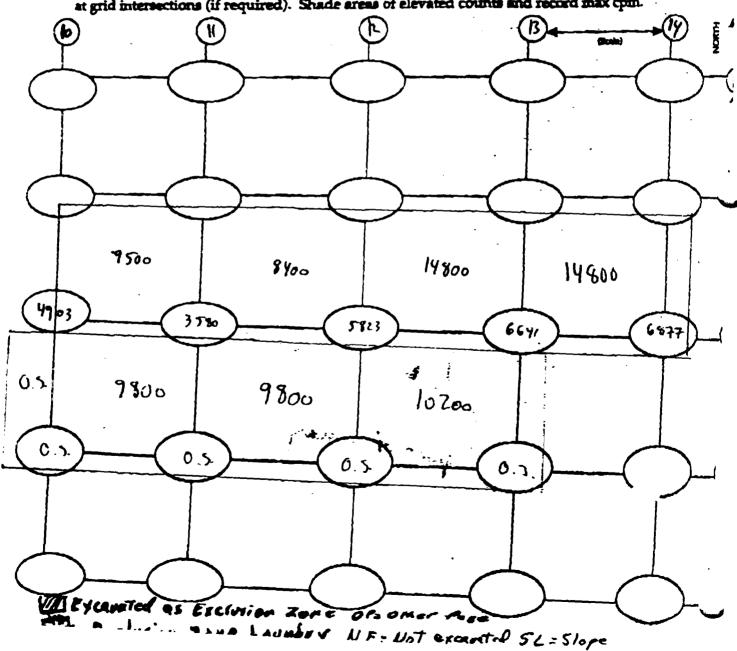
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Inst. Model	11um 2221	:	Serial No33		167148
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STS Constitute, Ltd.  o-ca-a c-0/n  Date 4/1: 9/2	L-B (-8/A-1)	6-8/6-12 \$129	Technician Tol, Steven
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### RADIATION SURVEY FORM Page 6 of 7 Project Name _ GMO Project # 25585-XI C-0/10-12 Technician C-0/#-13 9/24 D-8/2 19 8/27 PRIGG 148 Datesm Serial No. Inst. Model Ludlum Lift Elevation Probe Type: 1'x1"Nal / 2"x2" Nal Shielded / Not Shielded Action Level 20707 unskieldel cpm unshielded cpm 8K - 14K Background_ Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm. (Scale) 14600 9500 14100 9300 4241 4168 7482 4245 6100 8/00 9000 9800

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Project # 25585-XI

Project Name GMO

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Technician_ Serial No. 132 844

Inst. Model Ludlum

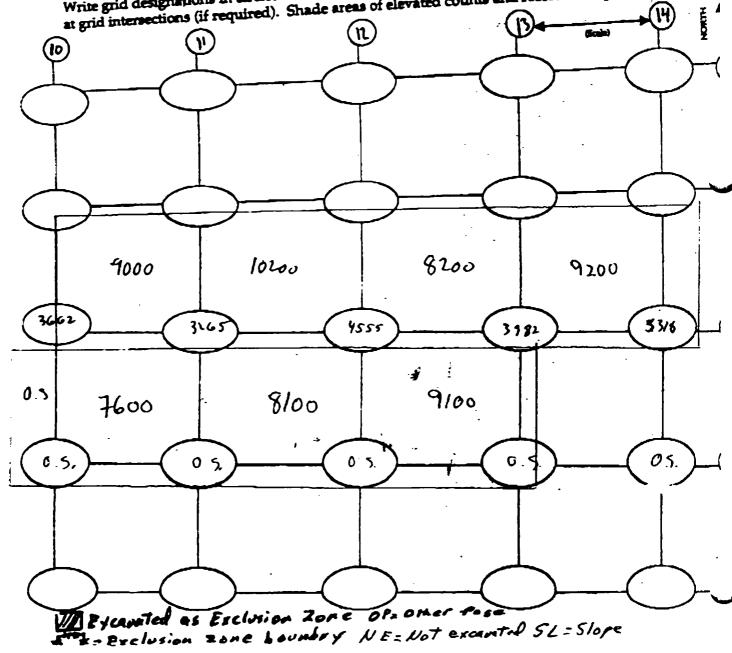
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Probe Type: 1'x1"Nal / 2"x2" Nal Shielded / Not Shielded

Action Level 20101

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Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm.



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Date	Technician LD Smill  mater# Prode #  Serial No. 126 496 168 143
Inst. Model Ludlum 2221	Lift Elevation 50rface
Probe Type: 1'x1"Nal 2"x2" Nal Shielded Not Shielded	· .
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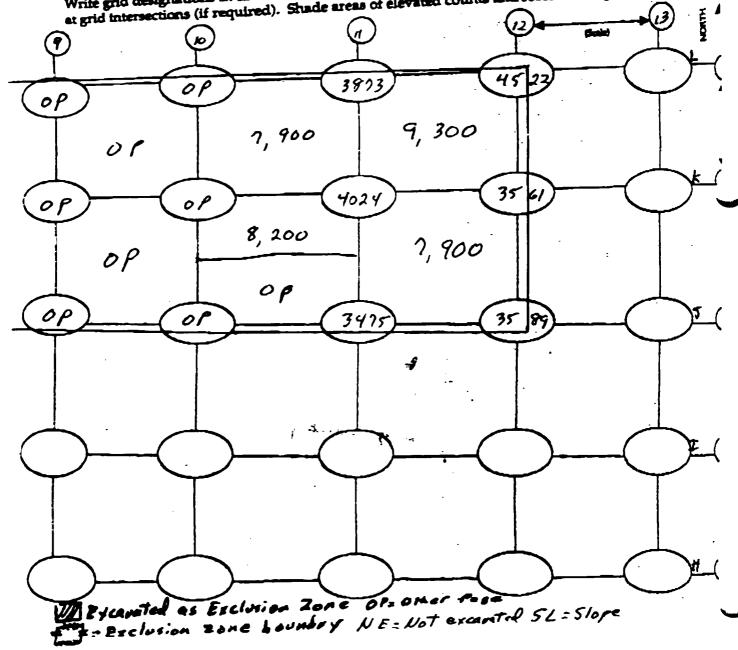
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<b>63</b>	Project Name GMO Page of 6
Project # 25585-XI	Technician ID Smill  motors  Serial No. 126 496 168 143
Date 8-29-02 Inst. Model Ludlum 2221	
Probe Type 1'x1"Nal 2"x2" Nal Shielded Not Shielded	Lift Elevation
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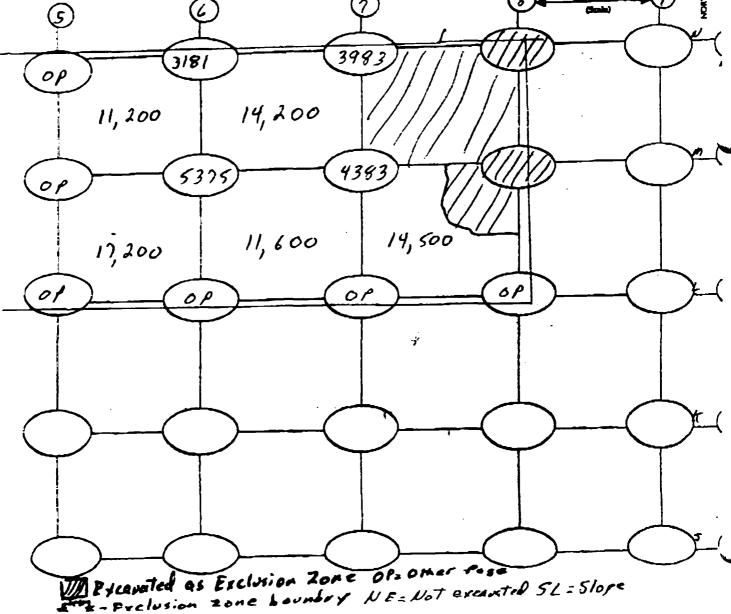
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Project Name GMO Page 2 of 7 Project # <u>25565-XI</u> 8-26-02 Technician_ Date Inst. Model Ludlum 2221 Serial No. 126 491 168143 Probe Type: 1'x1"Nal 2"x2" Nal Shielded Not Shielded Lift Elevation 3イー クイ Action Level 20,680 com __ cpm Background_ Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm. (Scale) 53 11,300 OP Pycavated as Exclusion Zone Of omer Zone Loundry NE= Not excepted SL= Slope

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Page 6 of 7 Project # 25585-XI Project Name GMO Technician_I& 8-26-02 Date _ Inst. Model Ludlum 2221 Serial No. 126 496 168143 -7,5 Probe Type: 1'x1"Nal 2"x2" Nal Shielded Not Shielded Lift Elevation _ 3イー クト 20,680 com Action Level ___ Background_ cpm Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm. (Scale) 68 14,600 OP OP cavated as Exclusion Zone

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### RADIATION SURVEY FORM

Project Name GMO Page of 6 Project # 25585-XI

STS Consultants, Ltd.

8/29 Date

Inst. Model Ludlum 2221

Probe Type: 1'x1"Nal / 2"x2" Nal

Shielded / Not Shielded

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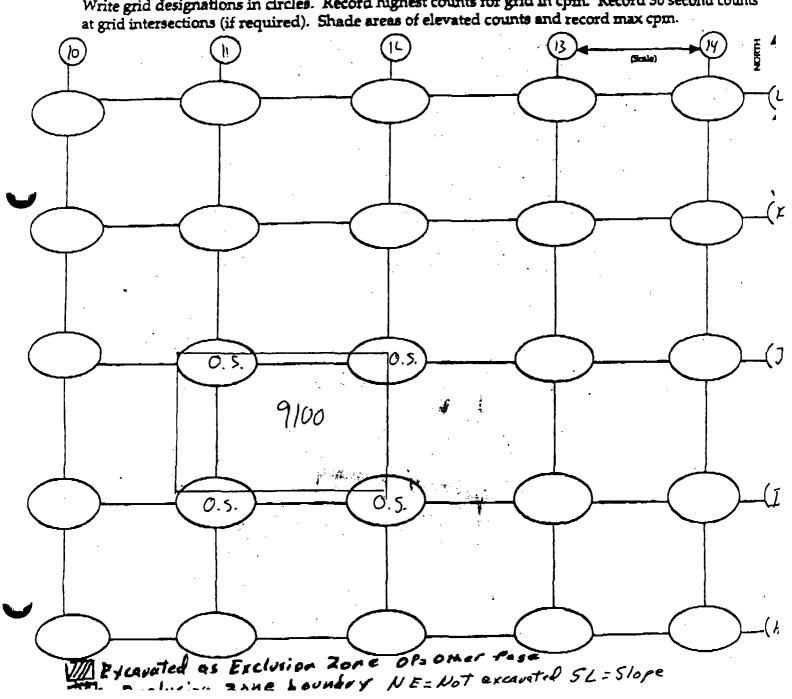
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Technician Toby Sker

Lift Elevation Surface

Serial No. 132844

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RADIATION SURVEY FORM Project Name GMO Page 3 of 6 Project # 25585-XI STS Consultants, Ltd. Technician Tob Slaven 8/27 Date Inst. Model Ludlum 2221 Serial No. 132844 PK16814A Lift Elevation ____3' Probe Type: 1'x1"Nal / 2"x2" Nal Shielded / Not Shielded 8K-14K vashielded cpm Action Level : 20101 vashilled cpm Background____ Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm. (Sicale) 8100

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### RADIATION SURVEY FORM

Project # 25585-XI Project Name GMO Page 5 of 6

STS Consultants, Ltd.

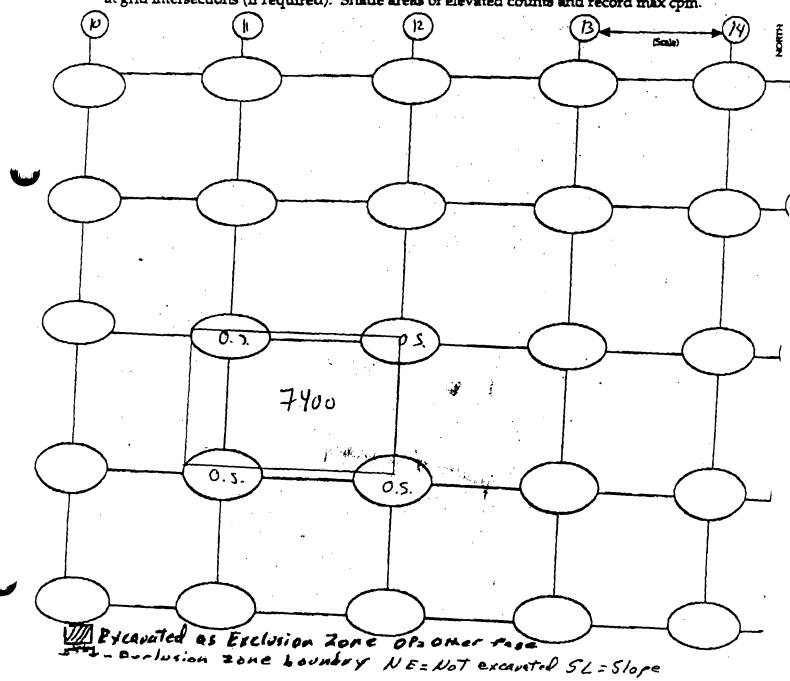
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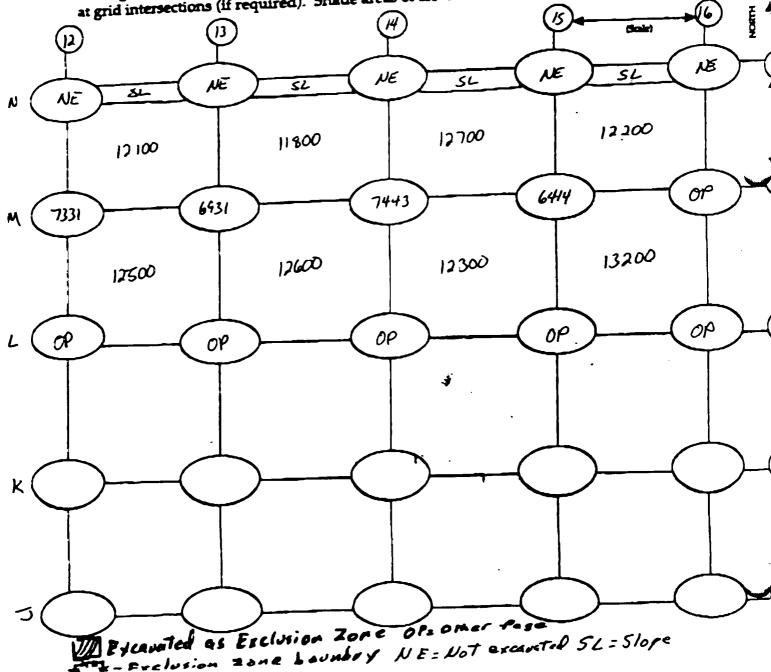
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	Project # 25585-XI	Project Name GMO	Page of6
	1/11/02/9/12/02/9/13/0	• • • • • • • • • • • • • • • • • • •	neter # / Probe #
Inst. Model	Ludlum 2221	Serial No/	32844 168148
Probe Type:	1'x1"Nal (2"x2" Nal Shielded (Not Shielded)	Lift Elevation	Surface
Background	4K-6K	_ cpm Action Level	20,909 [us] cpm
	esignations in circles. Record ections (if required). Shade as		
	[3]	(H) (S)	(Scale) E
IE SE	NE SE	NE SI NE	SE (NE)
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A Pula vatal	As Feeling 2	)	
*= Exclusio	as Esclusion Zone on a zone bounday N	E= Not exercised SL	= Slope

Page _2 of _6 Project Name GMO Project # 25585-XI Technician Jany Kame / Lindsay Ischin 4/11/02/9/12/02/9/13/02 Date 168143 Serial No. 132844 Inst. Model Ludlum 2221 Lift Elevation -1.5 A. Probe Type: 1'x1"Nal /2"x2" Nal Shielded V Not Shielded Action Level 20, 909 Jus Background 4K-6K __ cbw

Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm.



_ Page _ 3 of _ 6 Project Name GMO Project # 25585-XI Technician Serry Knew Lindsay Aschun 9/11/02 /9/12/02/9/13/02 Serial No. 132 844 168148 Inst. Model Ludlum 2221 Lift Elevation _ -3.0 ft. Probe Type: 1'x1"Nal / 2"x2" Nal Shielded / Not Shielded Action Level 20,909 [45] 414-6K cpm Background_ Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm. (علده) NE NE NE 52 SL NE SL NE ساي 14300 13200 11800 12700 5652 OP 7215 6551 6917 12300 12800 13100 12 700 OP OP OP OP OP ZONE Zone Loundry NE= Not executed 5L= Slope

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## RADIATION SURVEY FORM

Project # 25585-XI Project Name GMO Page 4 of 6

STS Consultants. 1	ind. /	•		
Date 9	111/02 / 9/12/02/9/13/03	? Technician	Jeny Knew Linday A	eddin
	Ludlum 2221		132844 169148	
Inst. Model	Lugion APP.			
Probe Type:	1'x1"Nal / 2"x2" Nal Shielded / Not Shielded		ion <u>-4.5 ft.</u>	_
		•	20,909 Jus p	
Write grid de at grid inters	signations in circles. Record lections (if required). Shade ar	highest counts for grid in teas of elevated counts an	cpm. Record 30 second cond record max cpm.	ents.
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Pycavate	d as Exclusion Zone sion zone Loundry	NE = Not examined	SL=Slope	

SS	Project # <u>25585-XI</u>	Project Name _ GMC	Page 5 of 6
	1/02/9/12/02/9/13/ 11/02/9/12/02/	Technicia Serial No.	moter# / Probe
Probe Type: 1'x	:1"Nal / 2"x2" Nal ielded / Not Shielded	Lift Eleva	tion <u>-6.0 A</u>
Write grid design	4K - 6K  nations in circles. Record It  ons (if required). Shade are	righest counts for grid is	rel 20,909 Jus cpm cpm. Record 30 second counts and record max cpm.
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Pycavated a	s Exclusion Zone zone boundary	OP : OMER POSE UE = Not excaucted	SC=Slope

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		Project # 2558S-XI	Project Name _GMC	Page _ 6 of _ 6
		102 /9/12/02/9/13/02 12/100 2221	Technician Serial No.	Motor # / Hobe # 152844 18148
	Probe Type: 1'x	cl"Nal / 2"x2" Nal ielded / Not Shielded		ion - 7.5 ft
	Background	4K'-6K	_ cpm Action Lev	el 20,909 [us] cpm
	Write grid designat grid intersection	nations in circles. Record h ons (if required). Shade are	nighest counts for grid in eas of elevated counts an	cpm. Record 30 second counts directed max cpm.
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<u> </u>	STS Consultante,	Project # _2	5585-XI	Project Nam	ne GMO	Page	1 of 6	
		9/6-9/10		- <del></del>	Technician_	Lindsay F	sehim Probe #	-
	Inst. Model	Ludlum 22	21		Serial No		1108143	
	Probe Type:	1'x1"Nal / 2"x2" I Shielded / Not Sl	Val vielded	. 1	Lift Elevation	· ·	surface	
	Background	4-10K		cpm A	Action Level	20, 680/	10988 cpm	
	Write grid de	esignations in circle ections (if required)	s. Record hig . Shade areas	hest counts of elevated	for grid in c	pm. Record 3 record max c	0 second count	ĿS
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## RADIATION SURVEY FORM

Project # 25585-XI Project Name GMO Page 2 of 6

STS Consultante. Ltd.	
Date 9/10-9/10	Technician Lindsay Aschin Jeny
Inst. Model Ludlum 2221	Serial No. 126496 168143
Probe Type: 1'x1"Nal / 2"x2" Nal Shielded / Not Shielded	Lift Elevation —15
Background 4-lek cpm	Action Level 20680 1.989 cpm
Write grid designations in circles. Record highest at grid intersections (if required). Shade areas of e	counts for grid in cpm. Record 30 second counts levated counts and record max cpm.
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18.5 WS 17.2 US 12	.7 US 121 US
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	Project # 25585-XI	Project Name	MO	Page 3	of L
STS Consultants, Ltd.				. h.	
Date Gle	02- 9/10/02	Tech	nician L. As	chim /J. K	rant
Inst. Model 🗘	udlum 2221	Serial	1 No. 12649	le lle8	143
Probe Type: 1'	x1"Nal / 2"x2" Nal nielded / Not Shielded		levation		•
Background 4	•	_ cpm Action	n Level 2010	80/6988	cpm
Write grid desig	nations in circles. Record I ons (if required). Shade ar	nighest counts for go	rid in cpm. I	Record 30 second max cpm.	ond counts
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) -4,500 US	11,100 US	10,200 US	ļ .	(E)	
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LI EYCAVAICE Q	Exclusion Zone a zone Loundry N	Famer face E= Not excaust	red 51=5	lope	

# 53

	Project # <u>25585-XI</u>	Project NameG_	Page of L
Date 910	i - 9/10	Technicie	n L. Aschim / J. Krane
			meter # Probe #
Inst. Model	udlum 2221	Serial No	126496 /168143
Probe Type:	l'x1"Nal / 2"x2" Nal Shielded / Not Shielded		$\frac{-4.5}{10}$
Background	4-6K'	cpm Action Le	vel 20680 /6988 cpm
Write grid desi at grid intersec	gnations in circles. Record tions (if required). Shade a	highest counts for grid i	n cpm. Record 30 second counts and record max cpm.
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	s Esclusion Zone		

Project Name GMO Page 5 of 6 Project # 25585-XI STS Consultante, Ltd. Technician L. Aschim J. Krane meter# | Probe # 9/6/02 - 9/10/02 Date Inst. Model Ludlum 2221 168143 Serial No. 126496 Lift Elevation __ -6.0 Probe Type: 1'x1"Nal / 2"x2" Nal Shielded / Not Shielded Background 4-le K Action Level 20680/6988 __ cpm Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm. (Scale) NE NE NE NE NE SL SL SL ٤٤ 13,000 4400 17000 3200 3800 15] (3) 105) S 5217 5812 OP 4407 11,500 9200 8500 9200 NS lus) 10 Excapited as Exclusion Zone Exclusion zone bounday NE= Not excavated SL= Slope

# 53

	Project # 25585-XI	•	Page Lo of Le
Date 9/6/02-		Technician	Meter# Probe =
Inst. Model Lad	lum 2221	Serial No.	126496 168143
	ied / Not Smelded		ion 7.5 [US]   S   cpm
Background 4-le		•	
Write grid designat	ions in circles. Record l (if required). Shade an	righest counts for gnd in	cpm. Record 30 second counts ad record max cpm.
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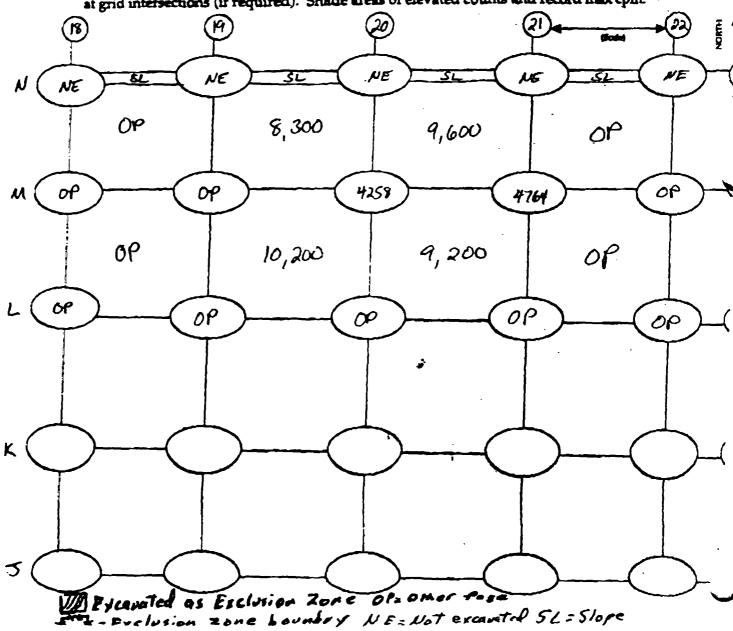


		Project # <u>25585</u> -	XI Project	Name <u>GMO</u>	Page	of _	1
	Date			Technician	Tim Oisria	,	
		Ledlum 2221			26496 /168		
	Probe Type:	1'x1"Nal / 2"x2" Nal Shielded / Not Shielded	)		on <u>Pr. 6P</u>		·
	Background	6K-9K	cpm	Action Leve	20,680	)	cpm
	Write grid de	esignations in circles. Rec sections (if required). Shad	ord highest co de areas of elev	unts for grid in vated counts and	cpm. Record	l 30 second	counts
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NE		Slope	NE	Slope SON		NE	
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Project Name GMO Page of 6
Technician Jem Kvant  mater# Frote #  Serial No. 126496 168143
List Elevation Surface
_ cpm Action Level cpm cpm

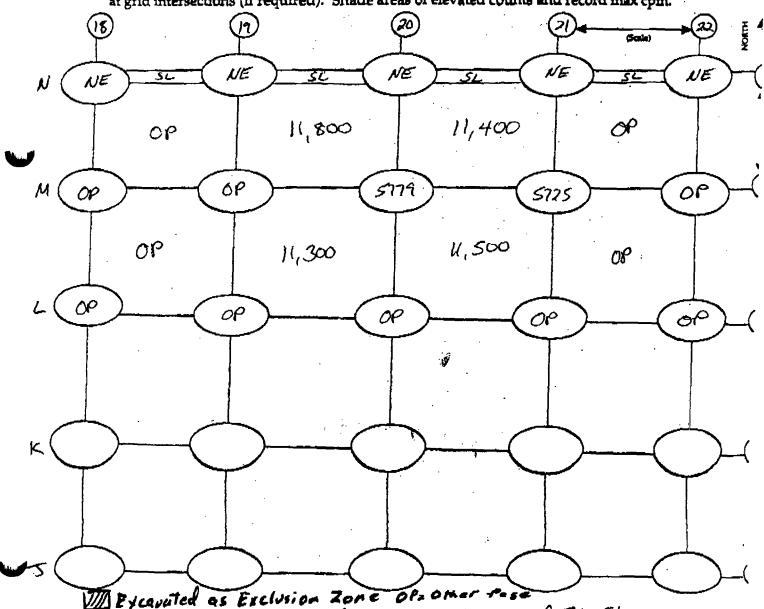
Write grid designations in circles. Record highest counts for grid in cpm. Record 30 se at grid intersections (if required). Shade areas of elevated counts and record max cpm.



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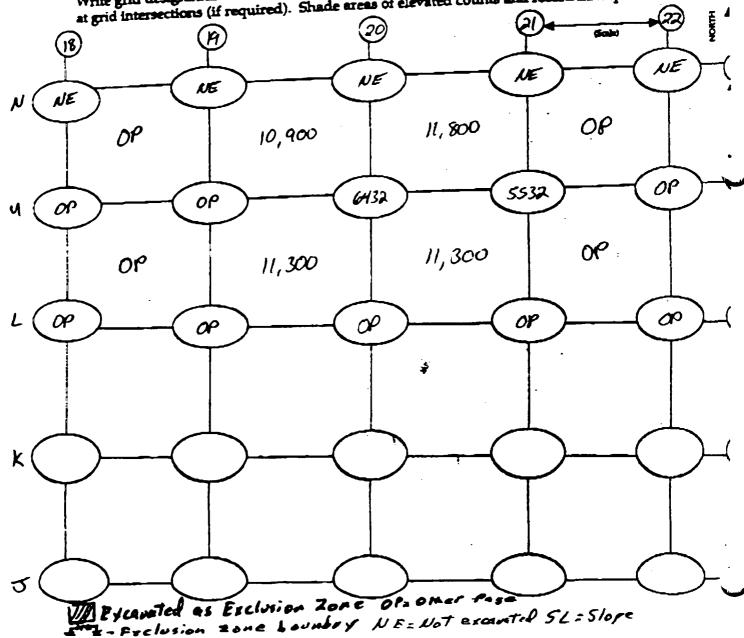
	Project # <u>25585-XI</u>	Project I	Vame GMO	Page_	2 of 6
STS Consultants, Ltd.	•	* *	4	•	, ,
Date : 0	117/02		Technician  Serial No	Jeny K	vane
		:		netet #	Protec 4
Inst. Model	12 Jum 2221	<del></del>	Serial No	126496	168143
Probe Type: 1's	x1"Nal /2"x2" Nal nielded /Not Shielded		Lift Elevation		
Background	5K - 7K	_ cpm	Action Level	20,68	cpm

Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm.



While Prelusion zone bounday NE = Not excaveted 5L = 5lope

53	Project # 25585-XI			-	3 of 6
STS Consultante, Lad.  Date	1/17/02	T	echnician_	Serry notes #	168/43
Inst. Model	udlum 2221		erial No ift Elevation		
Probe Type:	1'x1"Nal 2"x2" Nal Shielded Not Shielded				
Backemind	5x - 7k	cpm A	Action Level	<u> </u>	· ·



## RADIATION SURVEY FORM Project Name GMO Project # 25585-XI Technician_ 9/17/02 Serial No. 126496 Date Inst. Model Lud lum Lift Elevation Probe Type: 1'x1"Nal / 2"x2" Nal Shielded / Not Shielded Action Level 20,680 5K -7K ____ cpm Background_ Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm. (Scale) 18 SL NE 14,200 12,200 OP OP op 6559 OP 6603 13,800 OP 13,700 00 OP 00 a OP

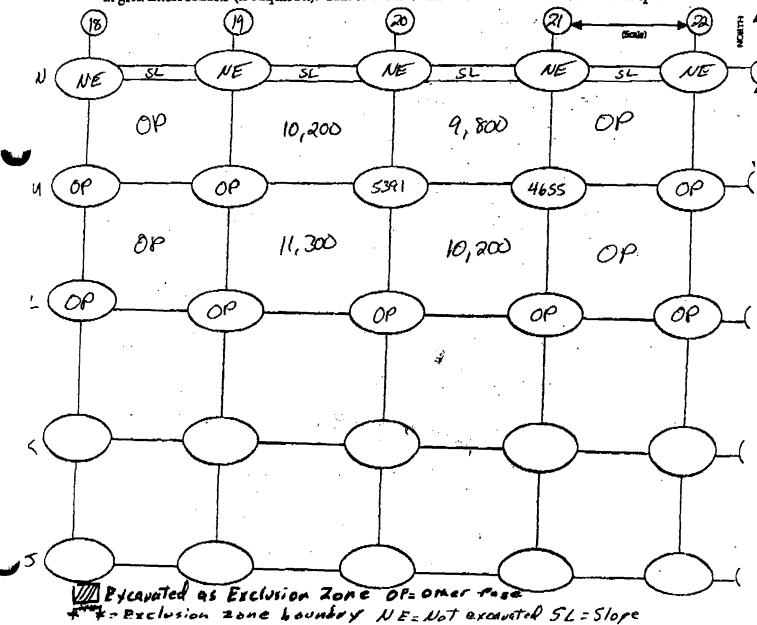
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The Prelusion zone Loundry NE= Not excavetel 51 = 510pe

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		Project # 25585-XI	Project Name_	GMO	Page 5 of	<u>.</u>
	Date 9/	17/02	Tec	hnician_5	erry Krawe	- B
	Inst. Model Le	11um 2221		ial No. <u>/264</u>		143
	Probe Type: 1'x Shi	1"Nal / 2"x2" Nal ielded / Not Shielded	Lift	Elevation	-6.0'	· 
	Background	SK - 7k	_ cpm Acti	ion Level	20,680	- cbw
	Write grid design	nations in circles. Record l ns (if required). Shade an	nighest counts for	grid in cpm. I	Record 30 second d max cpm.	l co <del>unts</del>
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		RADIATI	ON SURVEY FORM
STS Consultures, Ltd.	Project # 25585-XI	Project N	ame GMO Page 6 of 6
Date9/	17/02 Udlum 2221		Technician Jerry Kraue  meter# Probe #  Serial No. 126496 168/43
Probe Type: 1'	x1"Nal / 2"x2" Nal nielded / Not Shielded		Lift Elevation
Background	5K-7K	_ cpm	Action Level 20,680 cpm
Write grid desig at grid intersecti	nations in circles. Record I ons (if required). Shade ar	nighest cour	nts for grid in cpm. Record 30 second counted counts and record max cpm.



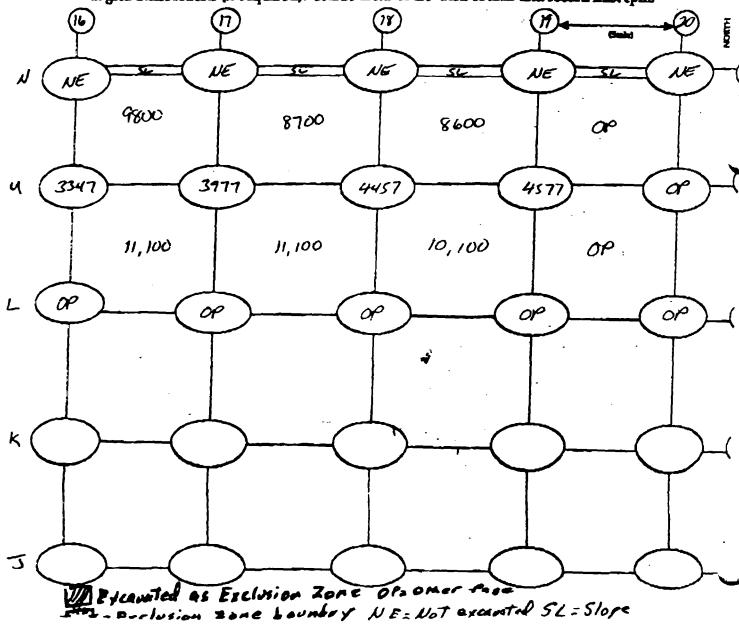
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### RADIATION SURVEY FORM

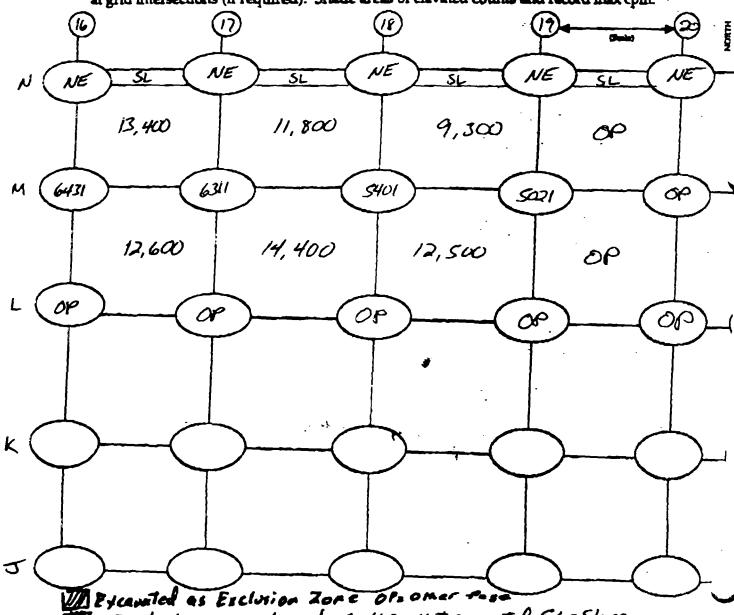
STS Coursiants, Ltd.	Project # 25585-XI	Project Name _GMO	Page 1 of 6
Date 9/3/02	19/16/02	Technician	Jerry Kram
Inst. Model Lud	lum 2221	Serial No	Moter# 100 = 132844 168148
Probe Type: 1'x1" Shiel	Nal 2"x2" Nal ded Not Shielded	Lift Elevati	on Surface
Background 5	K-17K	cpm Action Lev	el <u>20,909</u> cpm

Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm.



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		12 A	DIATION SUR	•	
	Tantasi di			10 Page	2 of 6
STS Consultants.	•	25585-XI P			· · · · · ·
Date 9	13/02/9/16	102	Technic	ian Jerry K	vaue
	Ludlum 2			meter # 10. <u>/32844</u>	168148
Probe Type:	1'x1"Nal / 2"x2 Shielded / Not	!" Nal Shielded	Lift Elev	vation	<del>-                                    </del>
Background	5k-7k	c	on Action I	evel 20, 90	9 cpr
Write grid d	lesignations in cir	cles. Record high	est counts for grid	l in com. Record 3	0 second cou
at grid inter	sections (if requir	ed). Shade areas	of elevated counts	and record max of	pm.
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	Project # 25585-XI	Project No	ame GMO	Page 3 of_	6
STS Consultanta, Ltd.		` `	•.		
	3/02/9/16/02		Technician	Jerry Krawe + dr # Pro se 132844 16814	-
Inst. Model	udlum 2221		Serial No	32844 16814	8
	x1"Nal / 2"x2" Nal nielded / Not Shielded		Lift Elevation	-3.0'	
Beckground	Sk - 7K	_ cpm	Action Level	20,909	cpm



zone Loundry NE= Not examted 51=5lope

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	STS Consultants, Ltd.	Project # _25585-XI	Project Name _ G MC	2 Page 4 of 6
		102/9/16/02	Technicia	motor# Probe =
	Inst. Model	11um 2221	Serial No.	132844 168148
	Probe Type: 1'x Shi	1"Nal / 2"x2" Nal ielded / Not Shielded	Lift Eleva	tion
	Background	5k1-7K	cpm Action Le	vel 20,909 cpm
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M 4055		4939	538	or or
	13,600	13,400	12,900	or
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	Excavated as	Exclusion Zone	OP2 OMER Page  N E = Not excavited	5/ = 5/nee

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	GR	RADIATION SURVEY FORM					
	Project #_	255 <b>85</b> -XI	Project Nan	ne <u>GMO</u>	Page _	of	
	STS Consultanna, Ltd.						•
	Date 9-18-02			Technician_1	Con OBrien	robett	
	Inst. Model Ludlum 122			Serial No. <u>120</u>			
	Probe Type: 1'x1"Nal 2"x2" Shielded Not			Lift Elevation	-		
	Background 4-6K		_ cpm	Action Level	20,680	cpm	
	Write grid designations in circ at grid intersections (if require	les. Record l d). Shade ar	highest counts	for grid in cp	om. Record 30 record max cp	m.	
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Project Name GMO Project # 25585-XI

9117 12002 Date

Inst. Model Ludlum 2221

Probe Type: 1'x1"Nal 12"x2" Nal Shielded / Not Shielded

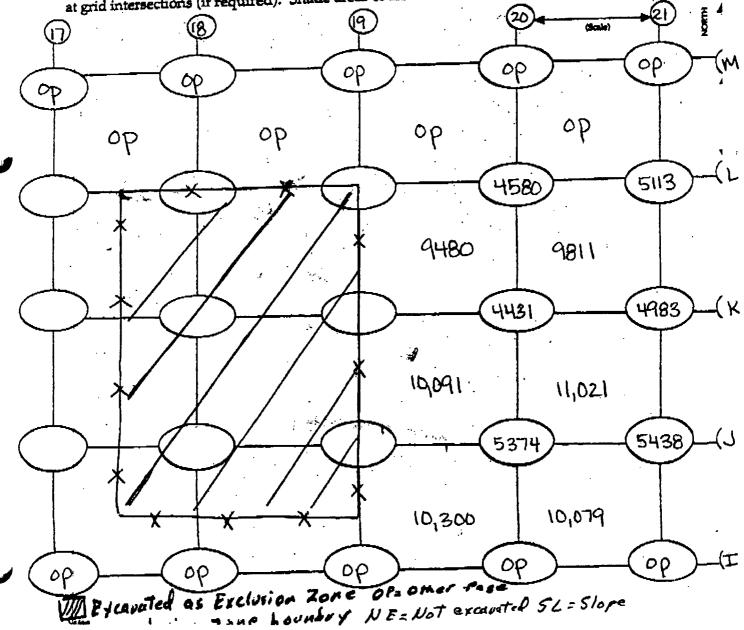
_ cpm Background

Technician Lindsa Serial No. 1214191 168143

Lift Elevation Surface

Action Level 20 John / 1988

Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm.



	Project # 25585-XI	Project Name _GM	2 Page	of le
Date 9	17/2002	Technicis	m Lindsay A	chim
	udlum 2221		gnoter at y	1143
Probe Type:	1'x1"Nal /2"x2" Nal Shielded / Not Shielded		ution $\frac{-1.5}{45}$	•
Background_	Hek.	cpm Action Le	vel 20,680/1988	cpm
Write grid desi	ignations in circles. Record I tions (if required). Shade an	nighest counts for grid i	in cpm. Record 30 second record max cpm.	cond counts
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Puclusion Zone Launder

suclusion zone bounday NE= Not exacuted 51=5lope

S	Project # _25585~8		ON SURVEY FORM	age 3 of L
Date	9/17/2002		Technician Linds	<b>"</b> /
•	1'x1'Nal / 2"x2" Nal Shielded Not Shielded		Serial No. 121496  Lift Elevation3	
Background	4-1, K	cpm rd highest cou	Action Level 20, to	ord 30 second counts
at grid inters	ections (if required). Shade	areas of eleve	ted counts and record n	Scale) 21 E 4
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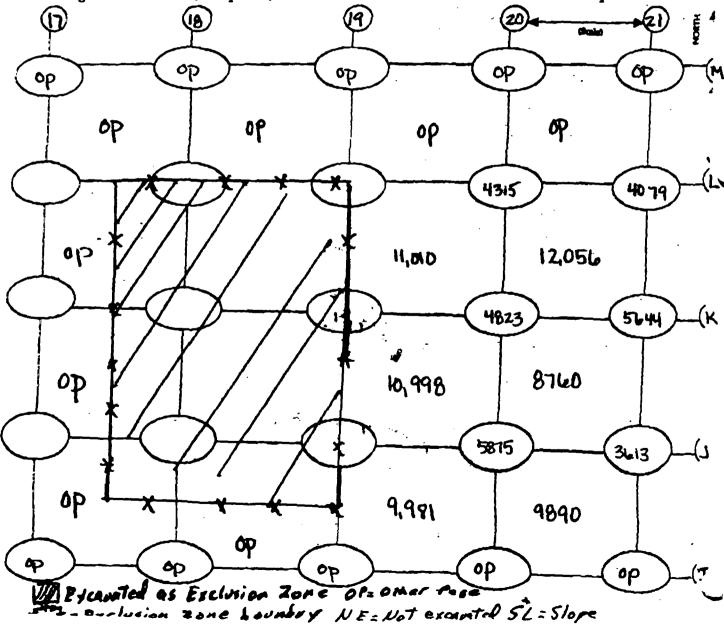
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### RADIATION SURVEY FORM

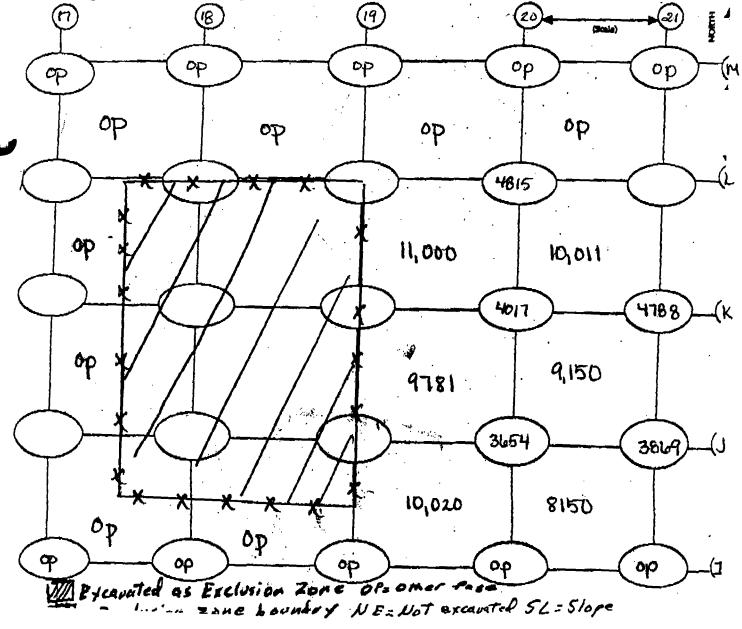
Project # 2551	S-XI Project Name GMO Page 4 of 4	
Date 9/17/2002	Technician Lindsay Aschin	n
Inst. Model Ludlum 2221	Technician Lindsay Aschin	
Probe Type: 1'x1"Nal /2"x2" Nal Shielded Not Shield	Lift Elevation -4.5	
Background 44 K	cpm Action Level 20 to 80 cpm	

Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm.



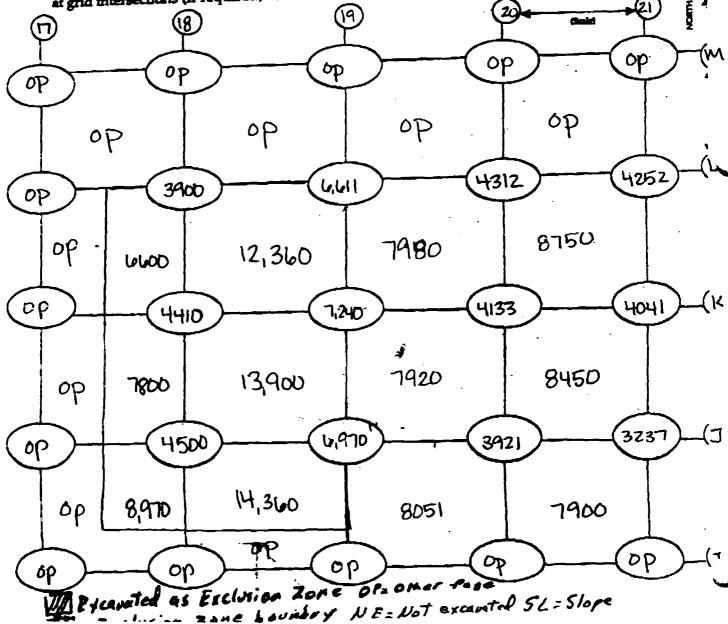
	KADIA ION SURVEI FORM		
	Project # 25585-XI	Project Name GMO	Page 5 of L
ST\$ Consultants, Ltd.	+ S ¹		<b>A</b>
Date	2002	Technician	ndsay Aschim
Inst. Model Lu	11um 2221	Serial No. 1264	ndsay Aschim
	1"Nal / 2"x2" Nal elded / Not Shielded	Lift Elevation	<u>-1.</u>
Background 4	le K	cpm Action Level	20,1080 cpm
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Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm.



Project Name _GMO Project # 25585-XI Technician_ 9/17/2002 Date Serial No. 1210491 Inst. Model Ludlum Lift Elevation Probe Type: 1'x1"Nal / 2"x2" Nal Shielded / Not Shielded Action Level 20, 680 cbw Background

Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm.



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		IION SURVEY FORM
Project # 25585-X	I Project N	Name GMO Page of Le
Date 9/18, 9/19/02		Technician L. Aschim
Inst. Model Ludlum 2221	:	Serial No. 127242 11-8144
Probe Type: 1'x1"Nal / 2"x2" Nal Shielded / Not Shielded		Lift Elevation Surface
Background 6,000	cpm	Action Level 21,072 cpm
Write grid designations in circles. Recor	d highest cou areas of elev	unts for grid in cpm. Record 30 second counts vated counts and record max cpm.
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### RADIATION SURVEY FORM

		Project Name _ G M	2 Page 2 of 6
	1/18,9/19/02 Ludlum 2221		m L. Aschim
Probe Type:	1'x1"Nal /2"x2" Nal Shielded Not Shielded		ation -1.5'
Background_	4000	cpm Action Le	vel <u>21,012</u> cpm
Write grid des	signations in circles. Record ctions (if required). Shade a	highest counts for grid i	n cpm. Record 30 second counts and record mux cpm.
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Excepted # * * * * * * * * * * * * * * * * * *	as Exclusion Zone on zone Lounbry	OP2 OMER PAGE NE= Not examina	OSL=Slope

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GR		RADIATION SUKV	EY FORM	•
	Project # 25585-XI	Project Name _GM	2 Page 3	of le
	A 102, 9/19/02		<i>{// -! \+' \+'  </i>	8144
Probe Type: 1'S	x1"Nal 2"x2" Nal nielded Not Shielded		-3'	•
Background	1000	_ cpm Action Le	vel: 21,012	cpm
Write grid desig	nations in circles. Recordons (if required). Shade a	highest counts for grid i	n cpm. Record 30 se nd record max com.	econd counts
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G	}	RADIATION SURVEY F	
#IC	Project # 25585-XI	Project Name GMO	Page 7 of Le
	1/18,9/19/02	Technician L	Aschim
Inst. Mode	1 Ludlum 2221	Serial No. <u>12</u>	
Probe Typ	e: 1'x1"Nal / 2'x2" Nal Shielded Not Shielded	Lift Elevation	-4.5'
Backgroun	d (6000)	_ cpm Action Level _	24072 cpm
Write grid	designations in circles. Record in circles. Shade are	righest counts for grid in ope	n. Record 30 second counts
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Present	ed as Exclusion Zone vision zone bounday	OPS OMET PESE	= Slope

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- · · · · · · · · · · · · · · · · · · ·	25585-XI Project	rt Name GMO	Page!	5 of Le
515 Consultante, Ltd.  Date 9/18, 9/19/02		Technician L	Aschina	
•		<i>(</i> **	eter#	Prote B
Inst. Model Ludlum 2	221	Serial No. 127		18144
Probe Type: 1'x1"Nal / 2"x2" Shielded / Not	"Nal Shielded	Lift Elevation	<u></u>	· · · · · · · · · · · · · · · · · · ·
Background LOOD	cpm	Action Level	21,072	cbru
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at grid intersections (if require	ed). Shade areas or el	evared counts and re	cord max chn	
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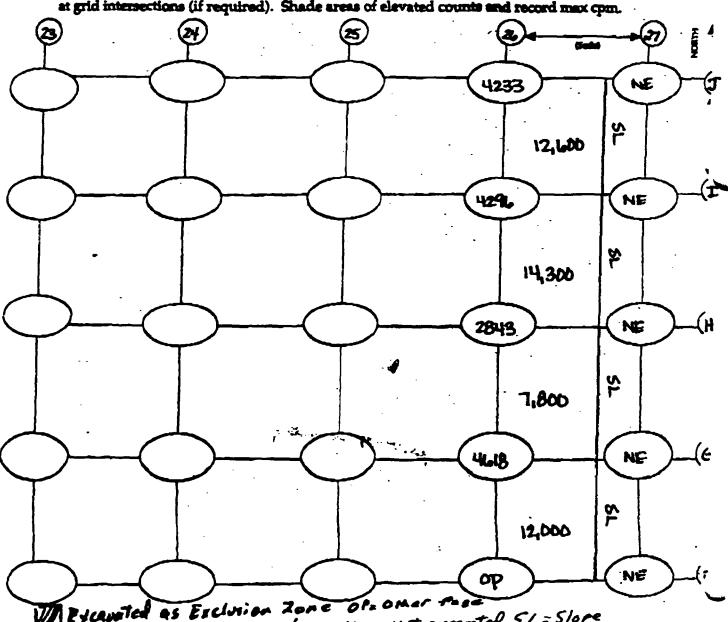
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The Exclusion Zone Laundry NE : Not excurated 51 = 510 pe

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Project # 25585	F-XI Project Name GMO Page Le of L
Date 9/18, 9/19	Technician L.Aschim
Inst. Model Ludlum 2221	Serial No. 127242   No. 144
Probe Type: 1'x1"Nal /2"x2" Nal Shielded Not Shielde	Lift Elevation
Background Leboo .	cpm Action Level 21,072 cpm

Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm.



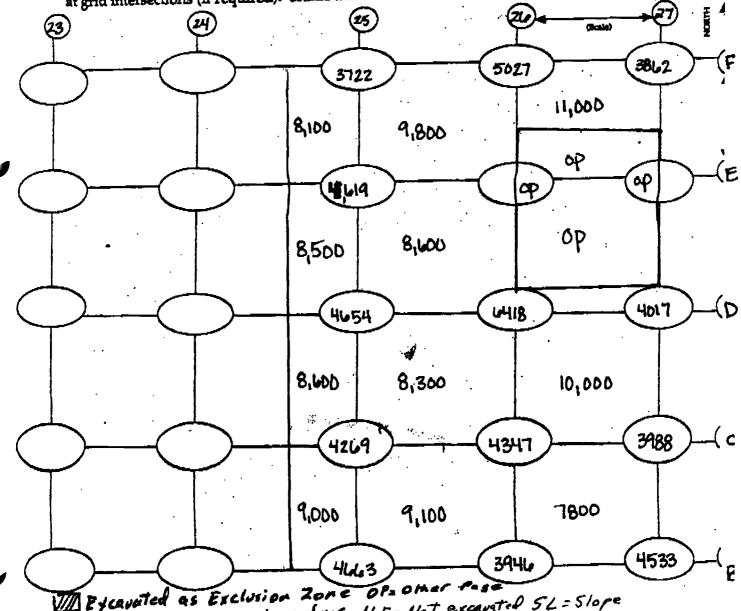
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	Project # _25585-XI	Project Na	me GMO Page 1 of La
STS Consultants, Ltd.	0110 012H		Technician L. Aschim
Date 9/18,	9/19, 9/24		Technician L. HSCMM  motor # Fro be S  Serial No. 127242 Ka8144
Inst. Model 🗘	udlum 2221		Serial No. 127242   168144
Probe Type: 1	'x1"Nal /2"x2" Nal hielded Not Shielded		Lift Elevation Surface
Background	5-6 K	_ cpm	Action Level 21,072 cpm
Weite orid desi	enations in circles. Record	highest cour	nts for grid in cpm. Record 30 second counts

at grid intersections (if required). Shade areas of elevated counts and record max cpm.



Loundry NE= Not excavated 5L= Slope

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22	RADIATION SURVEY FORM			M
	Project # 25585-XI	Project N	Name GMO	Page 2 of 6
STS Consultanta, Ltd.				
Date 9/18	, 9/19, 9/24		Technician L.A.	sehine
	udlum 2221		Serial No. 12724	2     Pro bc = 2
Probe Type: 1'S	x1"Nal / 2"x2" Nal hielded / Not Shielded		Lift Elevation _	.5
Background	5-4 K	_ cpm	Action Level 21	012 cpm
Write grid desig	mations in circles. Record lions (if required). Shade ar	highest cou	unts for grid in cpm. I	Record 30 second counts d max cpm.
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Loundry NE= Not examted 51=5lope

63	RADIATION SURVEY FORM  -XI Project Name GMO Page 3 of 6
Project # 25585-	MI Project Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister Parister P
Date 9/18, 9/19, 9/24	Technician L. Aschim
Inst. Model Ludlum 2221	Serial No. 127242 / No. 144
Probe Type: 1'x1"Nal / 2"x2" Nal Shielded Not Shielded	Lift Elevation3
Background 5-Le K	cpm Action Level 21,072 cpm
_	cord highest counts for grid in cpm. Record 30 second counted areas of elevated counts and record max cpm.

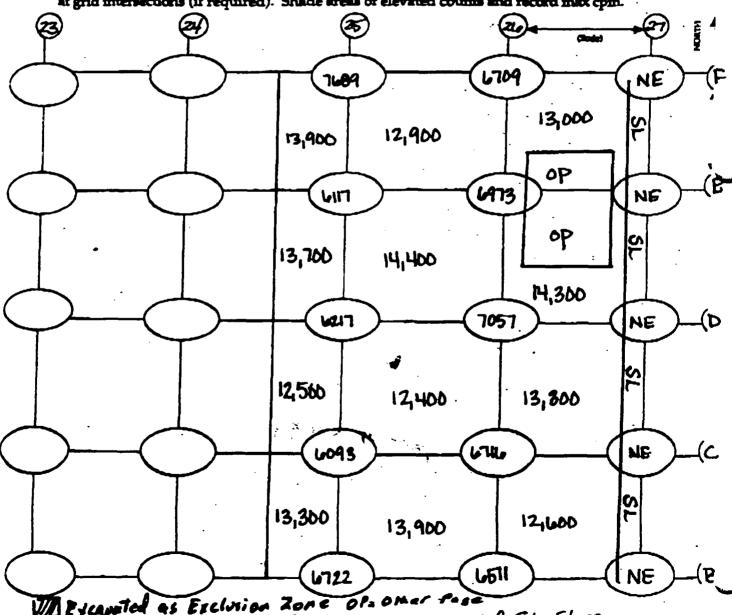
(ZY) 4858 6472 NE 13,100 12,800 13,900 OP 6,731 NE W-78 OP 12,900 13,300 14,100 a) 6575 NE 6311 12,700 12,460 12,400 (c NE 5813 **4545** 11,000 12,900 12,600 NE 9). 6209 6795

Zone Loundry NE= Not excepted 56=5lope

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Project # 25585-XI Project Name _ GMO Date 9/18, 9/19, 9/24 Technician Inst. Model Ludlum 2221 Serial No. 127242 Lift Elevation _-4.5 Probe Type: 1'x1"Nal / 2"x2" Nal Shielded / Not Shielded Background 5-Lok Action Level: 21.072 cpm cpm

Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max com.



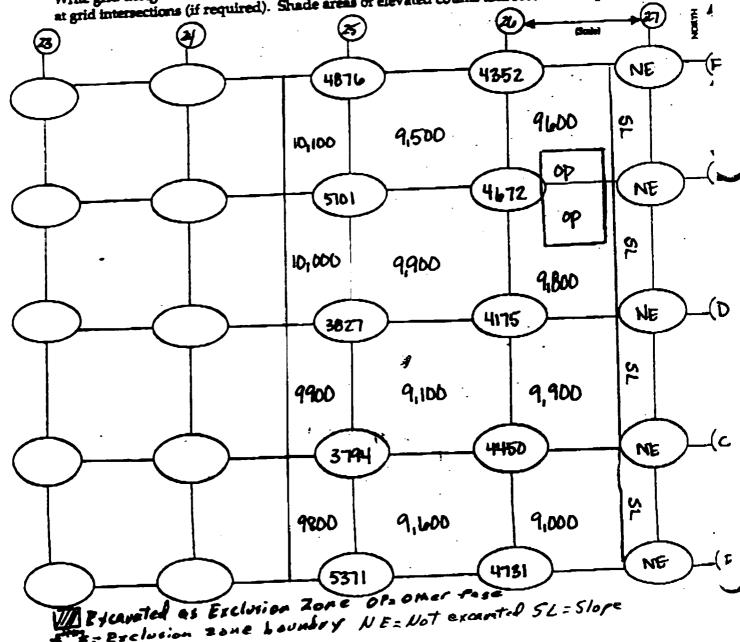
Loundry NE= Not examited SL= Slope

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G3	RADIAT			TION SURVEY FORM		
	Project # _2	5585-XI	Project Na	me GMC	Page	5 of L
Date 9/18	, 9/19, 9/24	· .		Technicia	n L. Aschin	Probt. 4
Inst. Model 🗘	udlum 22	21		Serial No.		1108144
Probe Type: 1	'x1"Nal / 2"x2" N hielded / Not Sh	ielded		Lift Elevat	ion —	
Background	5-6'K		_ cpm	Action Lev	rel: 21,072	cpm
Write grid design at grid intersect	gnations in circle ions (if required)	s. Record h . Shade are	ighest count ess of elevate	s for grid in d counts ar	cpm. Record :	30 second counts
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		10,800	10,30	×	12,600	
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_		12,100	9,70	<b>b</b>	11,300	
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Project # 25585-	-XI Project Name GMO Page 6 of 6
	1 Acehina
Date 9/18, 9/19, 9/24	moter a vanti
Inst. Model Ludlum 2221	
Probe Type: 1'x1"Nal / 2"x2" Nal Shielded / Not Shielde	Lift Elevation
Shielded Not Shielde	A 1 evel 21.072 cpm
Background 5-leK'	cpm Acoon Devel

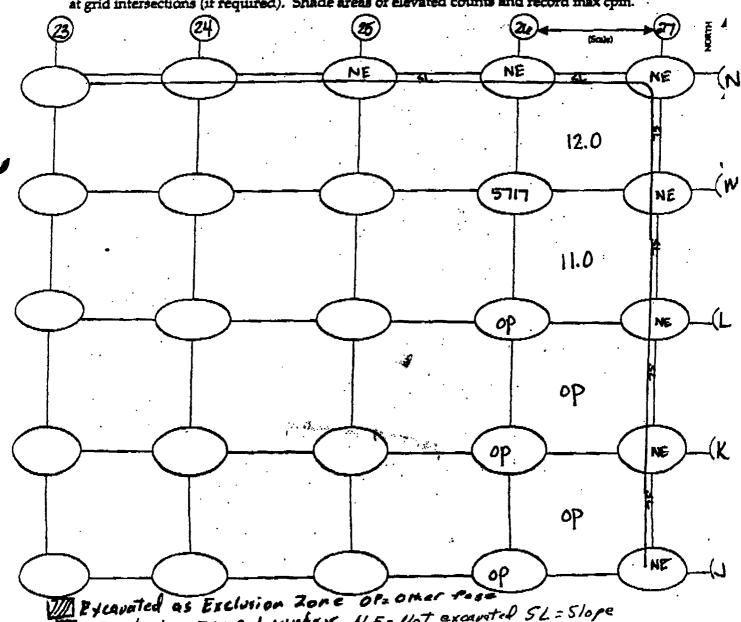
Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm.



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	Project # _25585-XI	Project N	ame GMO Page of L
Date 9/19/1	02		Technician Aschim
	11um 2221		Serial No. 127242   168144
Probe Type: 1'x1	· <del>************************************</del>		Lift Elevation Surface
Background 4-1	OK.	_ cpm	Action Level 21,072 cpm

Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm.

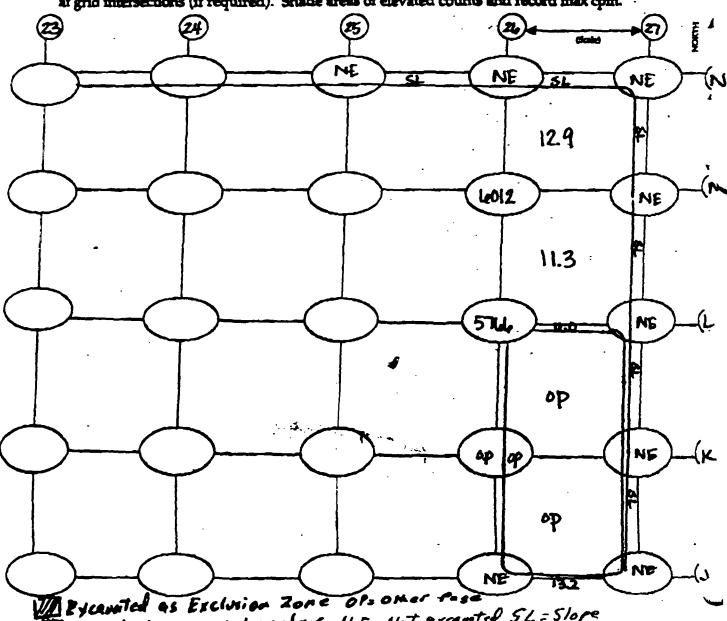


LAUNDRY NE= Not excavated 51=5lope

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-	Project Name GMO Page 2 of 6
Date 9/19/2002	Technician L. Aschim
<b>,</b>	Serial No. 127242 168144
Inst. Model Ludlum 2221	Serial No. 127242 / 168144
Probe Type: 1'x1'Nal / 2'x2" Nal Shielded Not Shielded	Lift Elevation — 1.5
Background 4-10 K	pan Action Level 21,072 cpm

Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm.



oundry NE= Not examted SL= Slope

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Ga	RADIATION SURVEY FORM
Project # <u>25595-XI</u>	Project Name GMO Page 3 of L
518 Consultants, Ltd.  Date 9 19 02	Technician L. Aschim
Inst. Model Ludlum 2221	Serial No. 127242 168144
Probe Type: 1'x1"Nal /2"x2" Nal Shielded / Not Shielded	Lift Elevation <u>-3</u>
Background 4-10 K	cpm Action Level 21.072 cpm
Write grid designations in circles. Record	highest counts for grid in cpm. Record 30 second counts ureas of elevated counts and record max cpm.
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Exclusion zone Loundry NE= Not excavated 5L= Slope

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STS Consultation	Project#_2	5585-XI Project Na	me_GMOPa	se 4 of le
Date 9	•		Technician L. Asc	him
Inst. Model	Ludlum 22	21	Serial No. 127242	168144
Probe Type:	1'x1"Nal / 2"x2" I Shielded Not St		Lift Elevation -4.5	
Background	4-10K.	cpan	Action Level 21,012	cpm
Write grid de	esignations in circle	s. Record highest count	ts for grid in cpm. Record one	d 30 second counts
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Project # 25585-XI	Project Name GMO Page 5 of 6
Date 9/19/02 Inst. Model Ludlum 2221	Project Name Gillo Aschim  Technician L. Aschim  Serial No. 127242   11-8   144    Lift Elevation
Probe Type: 1'x1'Nal / 2"x2" Nal Shielded / Not Shielded  Background 4-10 K	cpm Action Level cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm cpm
Write grid designations in circles. Recor at grid intersections (if required). Shade	ed highest counts for grid in cpm. Record 30 second counts areas of elevated counts and record max cpm.
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	4826 13.0 NE L

Proported as Exclusion Zone OP= omer fase | Frequence of the Standary NE= Not executed 5L=5lope

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Ere.	Project # 25585-XI	Project Nan	ne GMO	Page 4	of Le
Date 9/19	102		Technician L	Aschin	1 mbs 4
Inst. Model Les	1 lua 2221	·	Serial No. 127	242	68144
Probe Type: 1'x1		•	Lift Elevation	-7.5	
Beckground 4	10 K	_ cpm	Action Level _	21,072	chw
Write grid designs at grid intersection	itions in circles. Record : is (if required). Shade a	highest counts	for grid in cpn d counts and re	n. Record 30	second counts
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Excapated as	Exclusion Zone	OP2 OMER UE= Not e	Pesa		

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STS Consultante, Ltd. Date 920	Project # <u>25595</u>	<u>-XI</u> Project	Tabalaia	L. Aschir	vi
Inst. Model Lud	1/um 2221		Serial No		
Probe Type: 1'x1'	·	a	Lift Elevation	on Surface	·
Background 50	00	cpm	Action Levi	el <u>21,072</u>	cpm
9.9 t	itions in circles. Re is (if required). Sha	cord highest co	ounts for grid in vated counts an	cpm. Record 30 d record max cp	second counts
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	6P 9,40	5 6	1,600	8,000	
		5622)-	(52)	46)	NE (

The Exclusion zone Loundry NE= Not excavated 5L= Slope

RADIATION SURVEY FORM Project Name GMO Technician L Aschim motor # Serial No. 127242 Date 9/20/02 Inst Model Ludlum 2221 Lift Elevation -1.5' Probe Type: 1'x1"Nal / 2"x2" Nal Shielded Not Shielded Action Level 21,072 Beckground 5000 _ cpm Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts

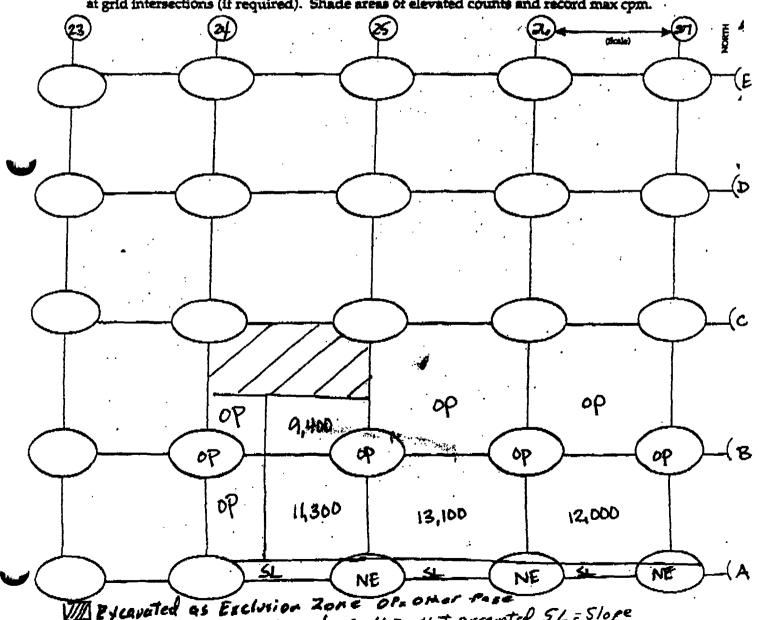
at grid intersections (if required). Shade areas of elevated counts and record max cpm. OP 9,200 OP op ٥Þ 11,300 OP 11,600 9,300 NE

Zone Loundry NE = Not examited 5L = Slope

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	Project # <u>25585-XI</u>	Project Name	GMO	Page	3 of 6
513 Consultante, Ltd.			7.		
Date 9/20	02	T	echnician	L. Aschi	m
	11um 2221	Se	zial No	meter# 127242	168144
Probe Type: 1'x	1"Nal / 2"x2" Nal elded / Not Shielded			on <u>-3'</u>	
Background 50	60 ·	_ cpm Ac	ction Lev	el 21,07	2 cpm

Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm.

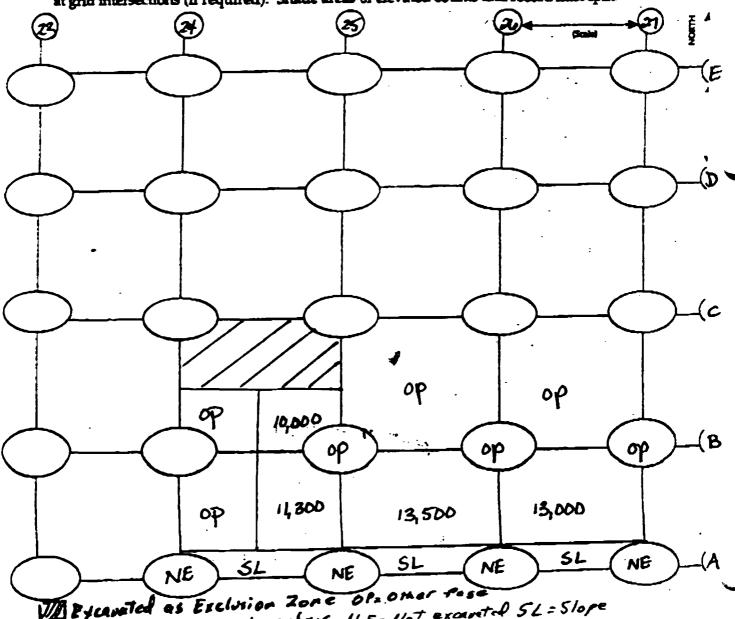


Loundry NE= Not excavated 5L = Slope

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	Project # 25585-XI	Project Name	GMO	Page 4 of	<u>le_</u>
Date 9/2	0 102	Те	echnician LAS	schim	
	11um 2221	Se	meterial No. 12724	2 16814	
Probe Type: 1'xi	I"Nal /2"x2" Nal elded / Not Shielded		ft Elevation		
Background 5	5000	_cpm Ac	tion Level 21, C	72	cpm

Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm.



DUMBEY NE= Not example 51=5lope

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Ga		RADIATION S	URVEY FORM	•
	Project # <u>25585-</u> X	I Project Name	GMO Page	le odo
Date 9	120/02	Tec	hnician LAschir	M
	Ludlum 2221	Seri	ial No. 127242	168144
	1'x1"Nal / 2"x2" Nal Shielded / Not Shielded	Lift	Elevation7.5	· · ·
Background	5,000	cpm Acti	on Level 21,072	cpm
Write grid de	esignations in circles. Recor	d highest counts for	grid in cpm. Record 3	0 second counts
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दर		RADIATION SURV	EY FORM	·
Proj	ect # _25585-XI	Project Name _GM	0Page_5_	of to
Date 9/20/62		Technicis	m L. Aschim	9 4c 25
Inst. Model Ludlum	2221	Serial No		अपम
Probe Type: 1'x1"Nal / Shielded /	2"x2" Nal Not Shielded	Lift Eleva	tion	· ·
Background 5000 '		cpm Action Le	vel : 21,072	cpm
Write grid designations at grid intersections (if re	in circles. Record he equired). Shade are	ighest counts for grid i	n cpm. Record 30 second record max com.	and counts
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Pycamied as Esclusion Zone Of omer Loundry NE= Not excepted SL=Slope

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SL

NE

14,800

SL

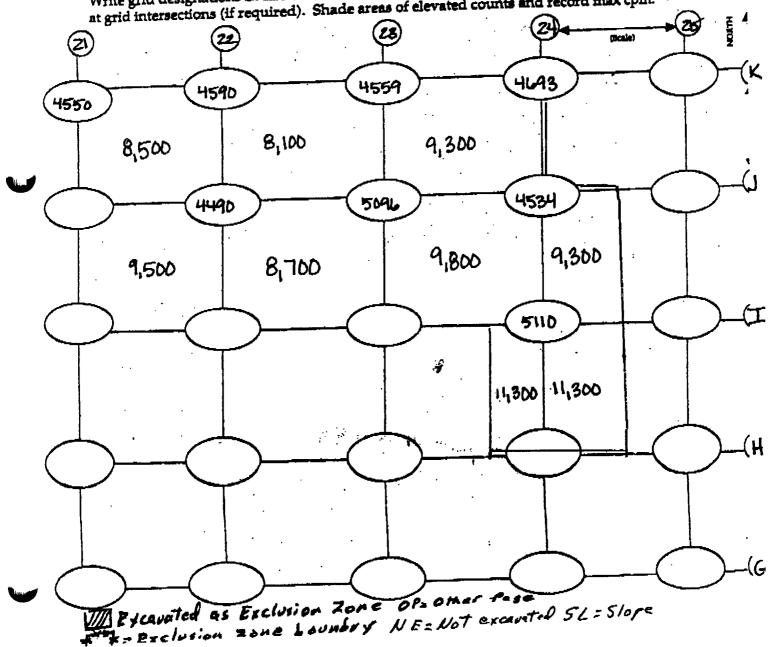
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RADIATION SURVEY FORM

Project Name GMO Page 1 Technician Lindson A 9/23/2002 9 9/25/02 Date Serial No. 127242 Inst. Model Ludlum 2221 Lift Elevation Surface Probe Type: 1'x1"Nal 12"x2" Nal Shielded Not Shielded Action Level 21,072 __ cpm 7-8 K Background_

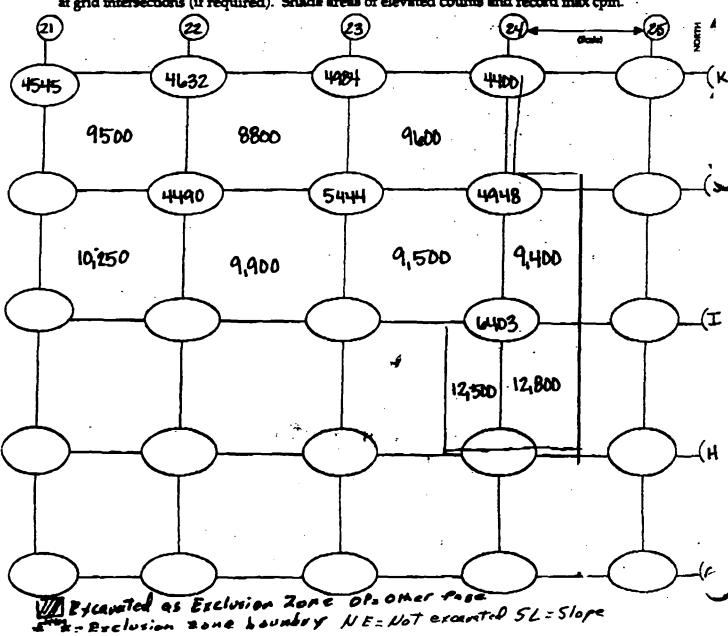
Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm.



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STS Convolume, Lad	Project # _25585-XI	Project l	Name GMO	Page_	2 of 6
- -	3/2002 + 9/25/02		Technician Line	deay A	schim
Inst. Model	udlum 2221		Technician Livi met Serial No. 1272	42	11-81-14 1
Probe Type: 1	'x1"Nal /2"x2" Nal hielded / Not Shielded		Lift Elevation	1.5	· ·
Reckmound	7-8K	COTT	Action Level 2	1,072	com

Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm.



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	G		RADIATION SUR	VEY FORM	
		Project # <u>25585-XT</u>	Project Name _GP	10 Page_	3 of <u>Le</u>
	Date 9/23/2	002 \$9 25 02	Technic	meter #	A Prote #
	Inst. Model Lud	lum 2221	Serial N		H-8144
	Probe Type: 1'x1' Shie	Nal /2"x2" Nal ded / Not Shielded	Lift Elev	ration	
	Background 7-	8K.	cpm Action I	evel 21,072	cpm
	Write grid designa	tions in circles. Record h s (if required). Shade are	ighest counts for grid	in com. Record 30	second counts
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Presented as Exclusion Zone OP2 Other Page

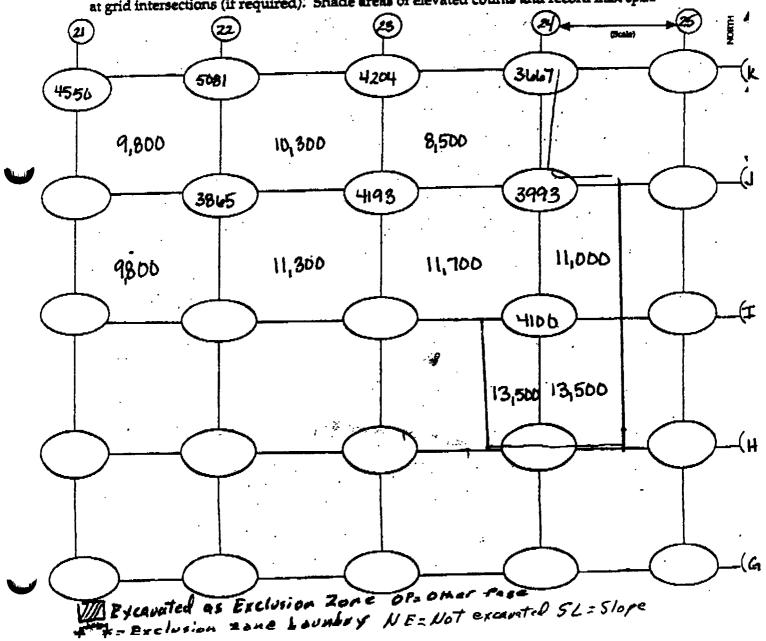
**** Exclusion Zone Loundry NE = Not exampled 5'L = 5lope

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	SE			TION SURVI	•	И (a	
	CT Countries	Project # _2	5585-XI Projec	Name_GMC	Z Page	4 of 6	-
	Date 9	23 2002 19	126 102	Technicia	nL. Aschi	M	
	Inst. Model	Ludlum 22	21	Serial No.	meter# 127242	16814	_
	Probe Type:	1'x1"Nal / 2"x2" N Shielded / Not St	ielded	Lift Eleva	tion <u>-45</u>		_
	Background	7-8 K	cpm	Action Le	vel 21,072	q	m m
	Write grid de at grid inters	esignations in circle ections (if required)	s. Record highest of ele	ounts for grid it	n cpm. Record nd record max	30 second co	unts
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25	Project # _25585-X1	Project Na	me_GMO_Page_5 of Lo
			Technician L. ASCHIM meter# Serial No. 12-72-42 1681-44
Probe Type:	1'x1"Nal / 2"x2" Nal Shielded / Not Shielded		Lift Elevation
Background		cpm	Action Level 21,012 cpm

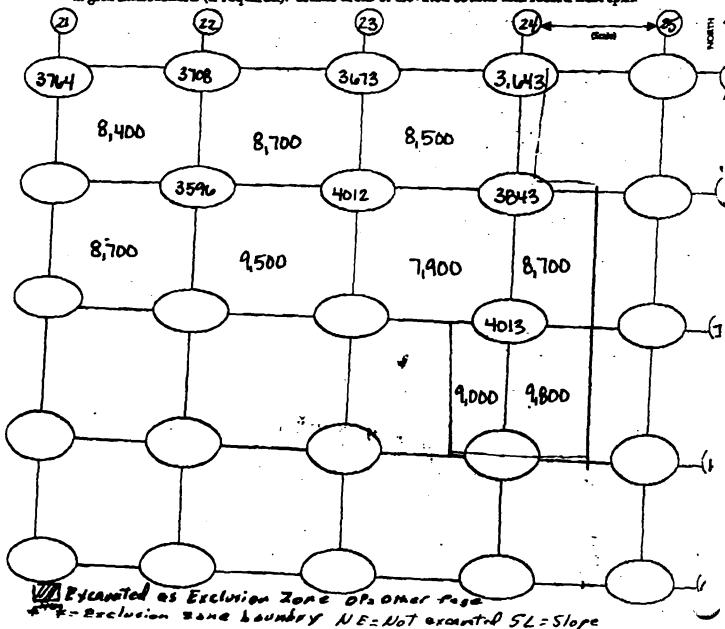
Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm.



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Project # 25585-XI Project Name GMO Page to of to strong the Page to of to strong the Page to of to strong the Page to of to strong the Page to of to strong the Page to of to strong the Page to of to strong the Page to of to strong the Page to of to strong the Page to of to strong the Page to of to strong the Page to of to strong the Page to of to strong the Page to of to strong the Page to of to strong the Page to of to strong the Page to of the Strong the Page to of the Page to of the Strong the Page to of the Strong the Page to of the Strong the Page to of the Strong the Page to of the Strong the Page to of the Strong the Page to of the Strong the Page to of the Strong the Page to of the Page to of the Strong the Page to of the Strong the Page to of the Strong the Page to of the Page to

Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm.

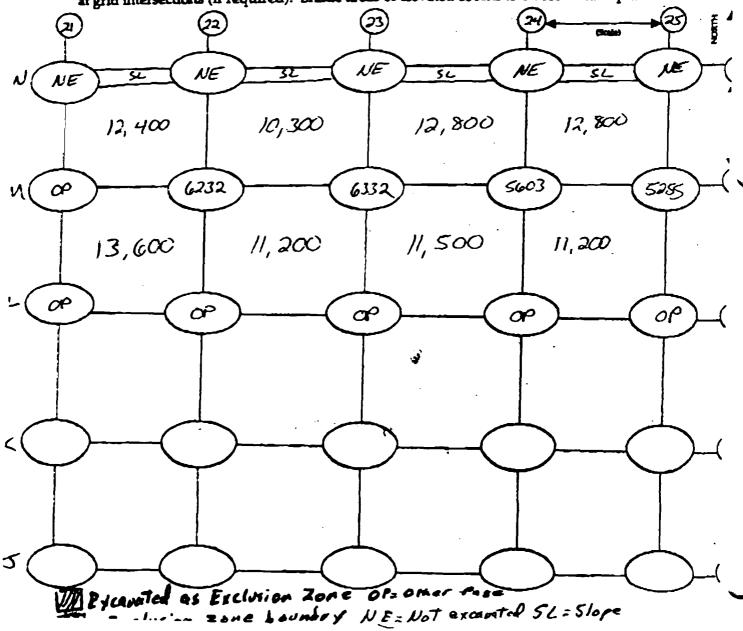


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	Project # 25585-X	L Project N	ame GMO	Page	<u> 6</u>
STS Consultants		2		· 1/	
Date	9/19/02 / 9/23/02	<u> </u>	Technician	Jerry Krave	4c. 2
Inst. Model	Ludlum 2221	····	Serial No. 13	2844 / /68	148
Ртове Туре:	: 1'x1"Nal / 2"x2" Nal Shielded / Not Shielded		Lift Elevation	Surface	, ·
Background	4K-6K	cpm	Action Level _	20,909	_ cpm
Write grid d	lesignations in circles. Recor	d highest cou	nts for grid in con	ı. Record 30 secon	ıd coun
at grid inter	sections (if required). Shade	areas of eleva	ted counts and re-	cord max cpm.	·~
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20	Project # _25585-XI	Project Name _GMO	Page	2 of 6		
STS Consultation, L	_	·.	la			
Date	9/19/02/9/23/02	Technician	Serry K	TPM be 3		
Inch Model	Ludlum 2221	Serial No.	Jerry K motor # 132844	168148		
		· - -				
Probe Type:	1'x1"Nal / 2"x2" Nal	Lift Elevati	on -1.5			
	Shielded / Not Shielded					

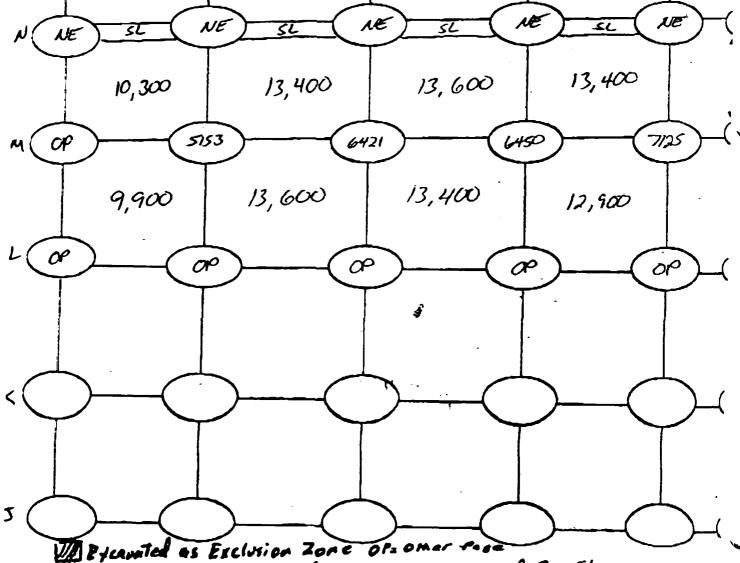
Action Level 20, 909 4K - 6K __ chw Background

Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm.



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	Project # 25585-XI	Project Name _GM	O Page_	3 of 6
Date	9/19/02 / 9/23/02	Technici	mater#	Probe #
Inst. Model 🚣	dlum 2221	Serial No	. 132844	168148
Probe Type: 1': Sh	x1"Nal / 2"x2" Nal tielded / Not Shielded	Lift Eleve	ation	<u>,</u>
Background	4K-6K	cpm — Action Le	vel 20, 90	epm cpm
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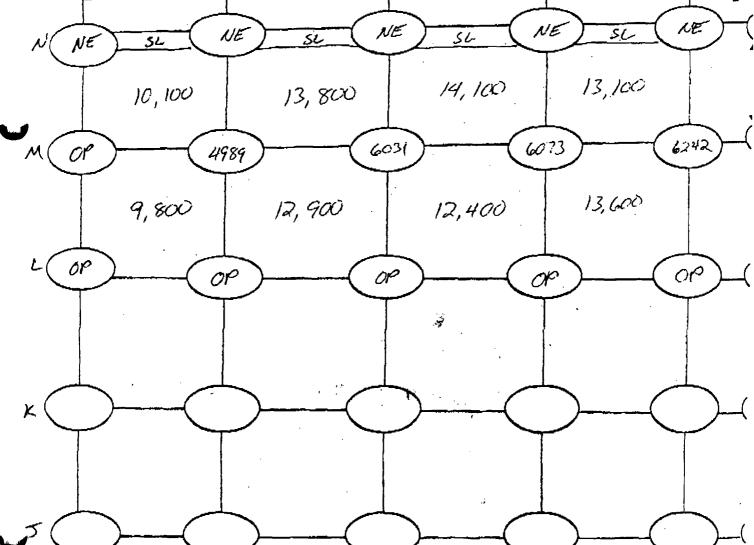
Project # <u>25585-XI</u>	Project Name GMO Page 4 of 6
Date 9/19/02 / 9/23/02	Technicism Jerry Krane meter # Protect
Inst. Model Ludlum 2221	Serial No. 132 844 168 148
Probe Type: 1'x1"Nal / 2"x2" Nal Shielded / Not Shielded	Lift Elevation 4.5
Background 4K - 6K	cpm Action Level 20,909 cpm
Write grid designations in circles. Record at grid intersections (if required). Shade a	highest counts for grid in cpm. Record 30 second counts areas of elevated counts and record max cpm.
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Loundry NE- Not excented SL= Slope

ION SURVEY FORM	17 A
Name GMO Page 5 of 6	Project # 25585-XI Pro
Technician Jerry Kvaue moter # Probe # Serial No. 132844 168148	Date 9/19/02 / 9/23/02
Lift Elevation	Probe Type: 1'x1"Nal / 2"x2" Nal Shielded / Not Shielded
Action Level 20, 909 cpm	Background 4K - 6K cpr
unts for grid in cpm. Record 30 second counts rated counts and record max cpm.	Write grid designations in circles. Record higher at grid intersections (if required). Shade areas or
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Serial No	Date 1/4/02 4/23/02



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RADIATION SURVEY FORM

Project # 25585-XI Project Name GMO Page 6 of 6

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Date 9/9/02 / 9/23/02 Technician Serry Kraue

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Technician Serry Kraue

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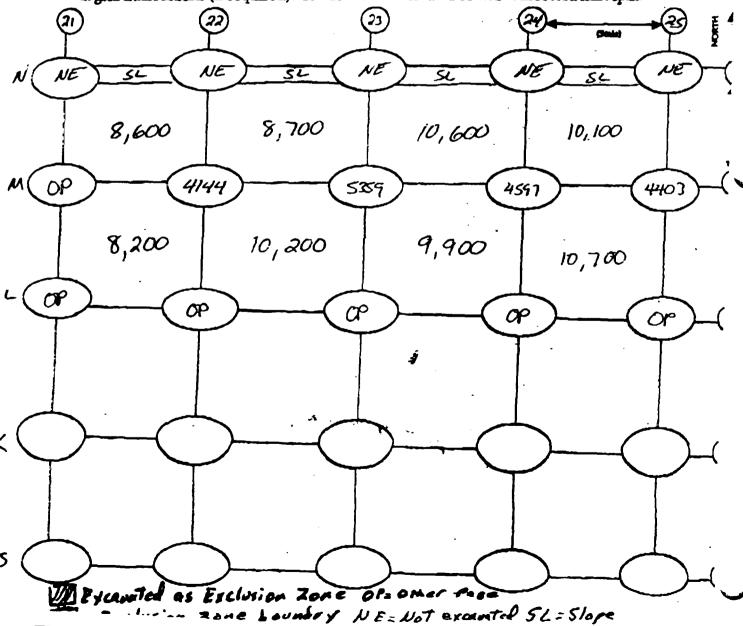
Technician Serry Kraue

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Page 7 Page 7



	GR	÷.	RADIAT	ion survey fo	ORM	
		Project # 25585-X	Project P	Vame GMO	Page /	of <u>6</u>
	STS Consultants, 1	•				
	Date _9	120/02 / 9/23/02	· ·	Technician	Serry Krave	4c #
	Inst. Model	Ludlum 2221		Serial No. /		148
	Probe Type:	1'x1"Nal / 2"x2" Nal Shielded / Not Shielded		Lift Elevation	Surface	, ,
	Background_	4K:-6K	cpm	Action Level _	20,909	cpm
	Write grid de	signations in circles. Recorections (if required). Shade	d highest cou areas of elevi	ints for grid in cpn ated counts and re	n. Record 30 seco. cord max cpm.	nd counts
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Loundry NE= Not excaveted SL= Slope

		RADIAT	ION SURVEY	FORM	•
	Project # 25585-XI			Page 3	46
	102 / 9/23/02 11um 2221		Technician	/ID/5/4/ /	ne 8/4/8
Probe Type: 1'x1			Lift Elevation	. 2 1	· ·
Background	4K-6K	_ cpm	Action Level	. 20,909	_ cpm
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STS Consultants,		N. T.			
Date	9/20/02 / 9	123/02	Technician Technician	erry Krane #	-
Inst. Model	Ludlum 22.	21	Serial No. 132	844 168148	
Probe Type:	1'x1"Nal / 2"x2" N Shielded / Not Sh	al ielded	Lift Elevation	-4,5	-
Background	4k:-6k	cpm	Action Level	20,909 cpm	
Write grid de at grid inters	esignations in circles ections (if required).	. Record highest co Shade areas of elec	unts for grid in cpm. rated counts and recor	Record 30 second count	ts
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OP)	5378	5413	(5228)	4743	(
11,400	11,3	100	11,400	11,300	
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Pycavater Property	das Exclusion	Zone OP2 ON MARY NE : NO	t excavital SL=	Slope	

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513 Consultanta.	Project # 25585-XI	Project Name GMO	Page 5 of 6
	9/20/02 / 9/23/02	Technician	motor# From #
Inst. Model	Ludlum 2221	Serial No	132844 168148
Probe Type:	1'x1"Nal / 2"x2" Nal Shielded / Not Shielded	Lift Elevati	on <u>-6.0</u>
Beckground	4 k: -6K	_ cpm Action Leve	d 20, 909 cpm
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102 / 9/23/02		Technician	Jerry Krai	rote 3
11um 2221				168148
1'Nal / 2"x2" Nal elded / Not Shielded		Lift Elevation	-7.5'	· .
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ations in circles. Record	highest count	s for grid in con	n. Record 30 se	scond count
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	1/vm 222/ 1'Nal / 2"x2" Nal idelded / Not Shielded / Not Shielded / 4/k - 6/k nations in circles. Record ons (if required). Shade a 8,000	1'Nal / 2"x2" Nal ielded / Not Shielded 4 k - 6 k cpm (ations in circles. Record highest count ons (if required). Shade areas of elevate (22) 3958 4167 8,000 9,	Serial No	Serial No. 132844 1"Nal / 2"×2" Nal Lift Elevation

SS	RADIATION SURVEY FORM
PO Complete Lat	25785-51 Project Name GHQ Page 3 of 6
915310	mark Troba
bost Mode Ladles	
Probe Type 1 at Nat / 2	MY Nai Life Elevation
	-
বের	RADIATION SURVEY FORM
Project	2555-II Project Name GHO Page 2 of (c
Des 9/53/02	Technical Terry Krause
inst Model Ladles	
Probe Type: 1's27khl / 2' Shinkled / N	Mr. Ned Lab Elevation
Bedgrand Sk	- 7k qua Action Level 20, 907 qua
Write graf designations in as and magnetisms if som	circles. Record highest counts for grid in open. Record 30 second counts strad). Shade mean of elevated counts and second max open.
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Dec 4/23/C2	PADIATION SURVEY FORM 25505-61 Project Name GNO Propt of 6 Technician Terry Kranz
Date 9/23/C2 Inst Model Land Long 2: Probe Type 13cl 70cl 71cl	Technician Jeny Krane Technician Jeny Krane Technician Jeny Krane Technician Jeny Krane 1.21 Serial No. 132744 167.48 No. 138 Serveton Surface
Date 4/23/62 Int Model Laddon 2: Frote Type 1347-94/7147 Shielded / Not	PADIATION SURVEY FORM 25505-01 Project Name GISO Project of G Technicism Terry Kraine (Party of Front St. Sected No. 132744 167.1/8 No. 132744 167.1/8 No. 132744 167.1/8
Date 4/23/62 Inst Model Led Lea 22 Probe Type 1 1xt 74nt / That Shielded / Not: Beckground 5k - Wise grad designations in circle	PADIATION SURVEY FORM 25505-AT Project Name GNO Page of G Technicien Terry Kravet profes is 100 for an is 1.21 Serial No. 132844 167.478 No. 132844 167.478 No. 132844 20, 409 cpm inc. Record highest course for gold in cyas. Record 30 expent
Date 4/23/62 Inst Model Led Lea 22 Probe Type 1 1xt 74nt / That Shielded / Not: Beckground 5k - Wise grad designations in circle	PADIATION SURVEY FORM 25505-87 Project Name GIGO Page 1 of 6 Technicism Jerry Kraine (Party 1 of 6 Technicism Jerry 1 of 6 Technicism Jerry 1 of 6 Technicism Jerry 1 of 6 Technicism Jerry 1 of 6 Technicism Jerry 1 of 1 of 1 of 1 of 1 of 1 of 1 of 1 o
Date 4/23/62 Jest Model Led Lee 2: Frobe Type 1 1x1 744 / 1747 Shielded / Not: Bechground 5k - Write gral designations in circle or gral paternations if requires S	PADIATION SURVEY FORM 25505-11 Project Name GNO Page of G Technicien Terry Kravet Fresh Ja Fresh S 1.21 Serial No. 132844 1677/8 Nol Life Elevation Surface TK cpm Action Level 20, 409 cpm ins. Record highest covers for gold in cpms. Record 30 econel course (1) Should name of devented counts and second source course (2) Should name of devented counts and second source counts
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Probe Type 112701 / 1707 Probe Type 112701 / 1707 Shindded / Not: Beckground 5K - Write grad designations to circle or grad paternations of required as grad pate	PADIATION SURVEY FORM 25505-11 Project Name GNO Page of G Technicien Terry Kravet Fresh Ja Fresh S 1.21 Serial No. 132844 1677/8 Nol Life Elevation Surface TK cpm Action Level 20, 409 cpm ins. Record highest covers for gold in cpms. Record 30 econel course (1) Should name of devented counts and second source course (2) Should name of devented counts and second source counts
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Date 9/23/62 Jest Model Ledden 2: Probe Type 1 1x1 744 / 3 1x2 Shielded / Not: Background 5k - Write graf designations to cited at graf paternations of required at graf paternations of required to the state of the state o	PADIATION SURVEY FORM 25505-11 Project Name GNO Page of G Technicien Terry Kravet Fresh Ja Fresh S 1.21 Serial No. 132844 1677/8 Nol Life Elevation Surface TK cpm Action Level 20, 409 cpm ins. Record highest covers for gold in cpms. Record 30 econel course (1) Should name of devented counts and second source course (2) Should name of devented counts and second source counts
Door 9/23/C2 Intr Model Land Long 22 Probe Type 11x178al / Frd' Shinkdod / Nort Background 5k - Wrise grad designations in cited or grad paternations of required or grad paternations of required to the control of	PADIATION SURVEY FORM 25505-11 Project Name GNO Page of G Technicien Terry Kravet Fresh Ja Fresh S 1.21 Serial No. 132844 1677/8 Nol Life Elevation Surface TK cpm Action Level 20, 409 cpm ins. Record highest covers for gold in cpms. Record 30 econel course (1) Should name of devented counts and second source course (2) Should name of devented counts and second source counts
Probe Type 13th Plat / Plat Probe Type 13th Plat / Plat Stringward 5k - Write grad designations to cited of grad paternations fill response S S S S S S S S S S S S S S S S S S S	PADIATION SURVEY FORM 25505-11 Project Name GNO Page of G Technicien Terry Kravet Fresh Ja Fresh S 1.21 Serial No. 132844 1677/8 Nol Life Elevation Surface TK cpm Action Level 20, 409 cpm ins. Record highest covers for gold in cpms. Record 30 econel course (1) Should name of devented counts and second source course (2) Should name of devented counts and second source counts
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Page 2 of 6 Project Name GMO Project # 25585-XI

9/23/02 Date

Inst. Model Ludlum 2221

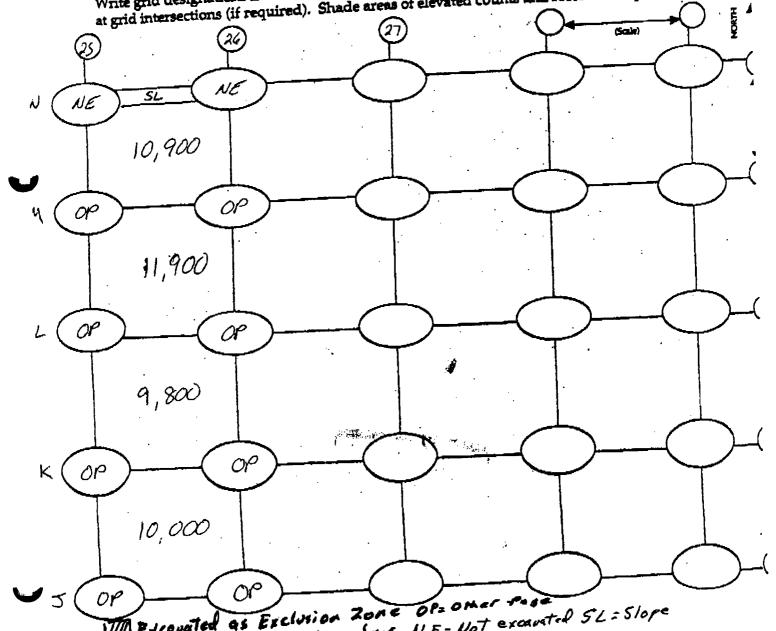
Probe Type: 1'x1"Nal / 2"x2" Nal Shielded / Not Shielded

5k-7k cpm Background

Technician 168148 132844 Serial No... Lift Elevation

20,909 Action Level _

Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm.

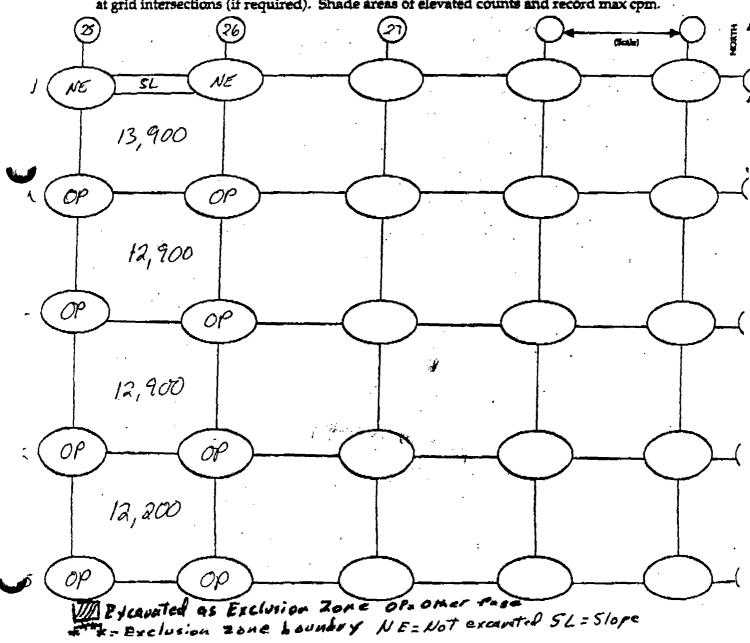


Loundry NE= Not excavated SL=Slope

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EA	·	Project I	Vame GMO	Page3 of _6
Date	9/23/02		-700 A	Jerry Krave 107 1 108 148
	Ludlum 2221		Lift Elevation _	
Probe Type:	1'x1"Nal / 2"x2" Nal Shielded / Not Shielded			
Background_	5K-7K	cpm	Action Level	20,909 cpm
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RADIATION SURVEY FORM

	Project # <u>25585-XI</u>	Project Name _GMO Page	4 of 6
Date	9/23/02	Technician Terry Kra	ane_
	dlum 2221	Technician Jerry Kra mater # Serial No. 132844	168148
	x1"Nal / 2"x2" Nal vielded / Not Shielded	Lift Elevation 4.5	/
Background	5K-7K	cpm Action Level 20,90	9 cpm



50	Project # 25585-XI	Project NameGF	10 Page 5 of 6
STS Commitmente, Ltd. Date	9/23/02	•	ian Jerry Krane moted# Frobe =
	udlum 2221	Serial N	0. 132844 168148
Probe Type: 1'S	x1"Nal / 2"x2" Nal rielded / Not Shielded	Lift Elec	ration $-6.0'$
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	Project # 2558	<u>s-xī</u> Project	Vame GMO	Page	©_01_€
STS Consultants, Ltd.	9/23/02		Technician_	Jerry Kn	ane
Inst. Model Lu	11um 2221	:	Serial No	132844	168148
Probe Type: 1'x	i"Nal / 2"x2" Nal elded / Not Shield	led	·	- 7.5	
Background	5K-7K	cpm	Action Level	20,909	7 срп
	nations in circles. I	2d biobost co	unts for orid in c	om. Record 30	second cour
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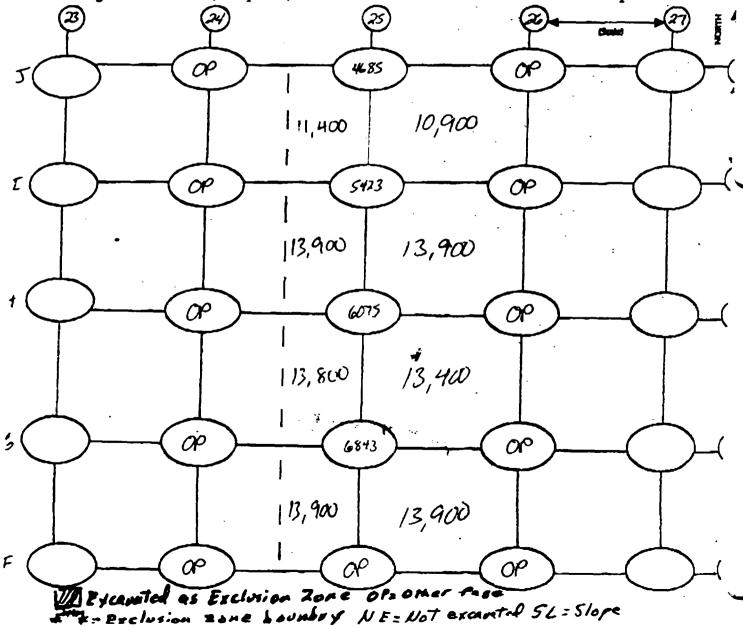
Project Name _GMO Project # 25585-XI 9/23/02 9/24/02 Technician Jerry Kvane Date 168148 Inst. Model Ludlum Serial No._ Surtace Probe Type: 1'x1"Nal / 2"x2" Nal Lift Elevation Shielded / Not Shielded 20,409 SK - 7K Action Level: ____ cpm Background Write grid designations in circles. Record highest counts for grid in com. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max com. 00 4656 OP OP 10,400 10,100 OP 00 4898 19,300 10,100 op 4264 00 OF 10,000 9,900 5345 OP ap 11,000 10,200 OP OP OP

oundry NE= Not examined 5L= Slope

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rs Consultants, Ltd.	3/02 / 9		1	echnician	Jerry	Krane	-
/B/A				erial No/_	ster# 82844	168148	<u> </u>
nst. Model	•			.ift Elevation		5′	— —
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ackground		7K	•	Action Level _			
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	Project # 25585-XI	Project Name GMO	Page	3 of 6
STS Consultants, L	_	· · · · · · · · · · · · · · · · · · ·	Tam.	V a sa
	9/23/02 / 9/24/02	Technician	Jeny moter#	Probe 4
Inst. Model _	Ludlum 2221	Serial No	·	
	1'x1"Nal / 2"x2" Nal Shielded / Not Shielded	Lift Elevati	on	.0'
Background_	SK - 7K	cpm Action Leve	20,9	og com

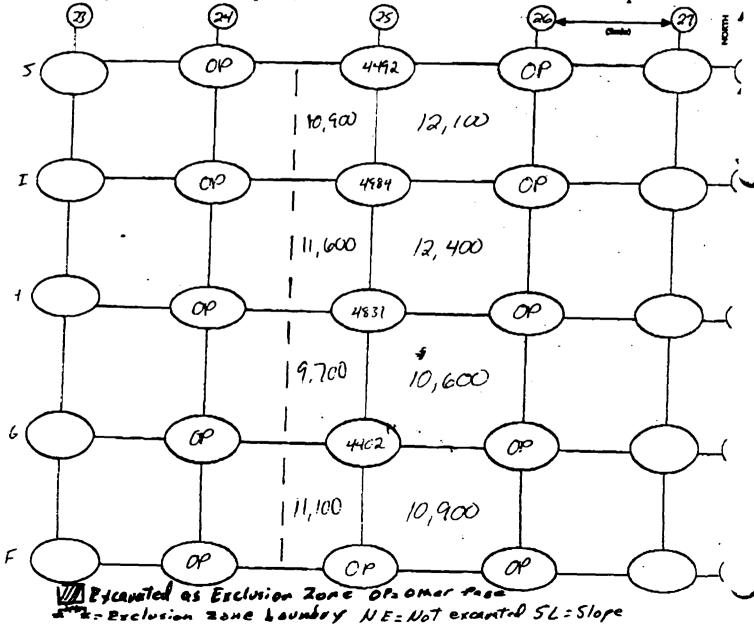


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		9/23/02/	19/24	102	···	Techni	cian	tery k	Probe :
Ŀ	nst. Model	Ludlum	22	2/	·	Serial L	NO		
p	robe Type:	1'x1'Nal / Shielded /	′ 2"x2" N ′ Not Shi	al ielded		Lift Ele	vation	- 4.8	<u> </u>
В	ackground.	<u>.</u>	K-7K		_ cbar	Action	Level	20,90	<u>9</u> 9
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	Project # 25585-XT	Project I	Vame GMO	Page	5 of 6
STS Consultanta, Lad.	100 100 1 010 110	•	_		· •
Date	123/02/9/24/02		Technician	Jeny	Probe 3
inst Model	udlum 2211		Technician // // Serial No. //	2844	168148
Probe Type: 1	x1"Nal / 2"x2" Nal hielded / Not Shielded		Lift Elevation	_	. /
Background	5k-7k	_ cpm	Action Level	20,90	29 CDIR



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STE Consultants, Li	•	25585-XI	Project Naz	ne GMO	Page	<u>o</u> of <u>6</u>	
= -	9/23/02/	9/24/02		Technician	Jeny K	rand	
Inst. Model _	Ludlum 2:	22/		Serial No. /3		168148	
Probe Type:	1'x1"Nal / 2"x2" Shielded / Not	'Nal Shielded		Lift Elevation	- 7.8	5	
Background_	5K -	7K	cpm	Action Level _	20,90	g cpm	
Write grid des	ignations in circ	les. Record hi d). Shade area	ghest count as of elevate	s for grid in cpr d counts and re	n. Record 30 ecord max cpr	second counts	
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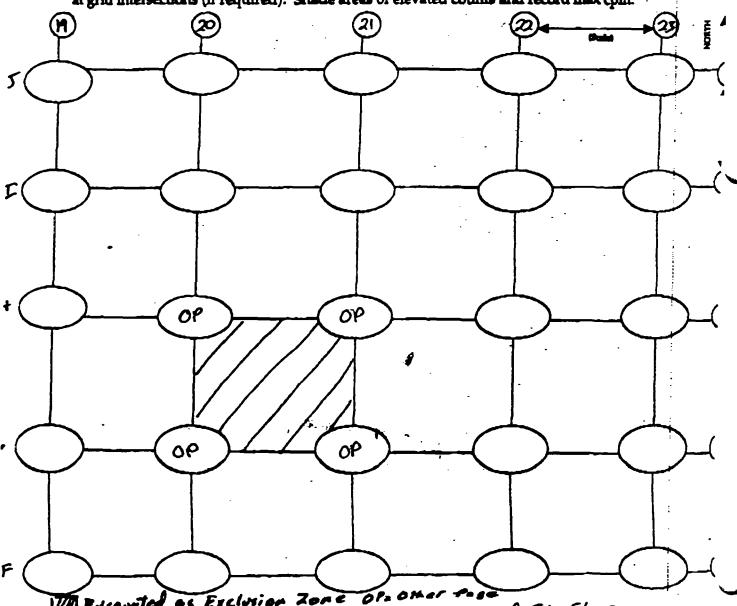
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RADIATION SURVEY FORM

	Project # <u>25585-XI</u>	Project N	Name GMO Page 1 of 6
Date	4/25/02		Technician Serry Kname
	Ludlum 2221	· · · · · · · · · · · · · · · · · · ·	Technician Serry Krave motor # Prote = Serial No. 127242 168144
Probe Type:	1'x1"Nal / 2"x2" Nal Shielded / Not Shielded		Lift Elevation Surface
Background	4K-6K	CDIN	Action Level 21,072 com

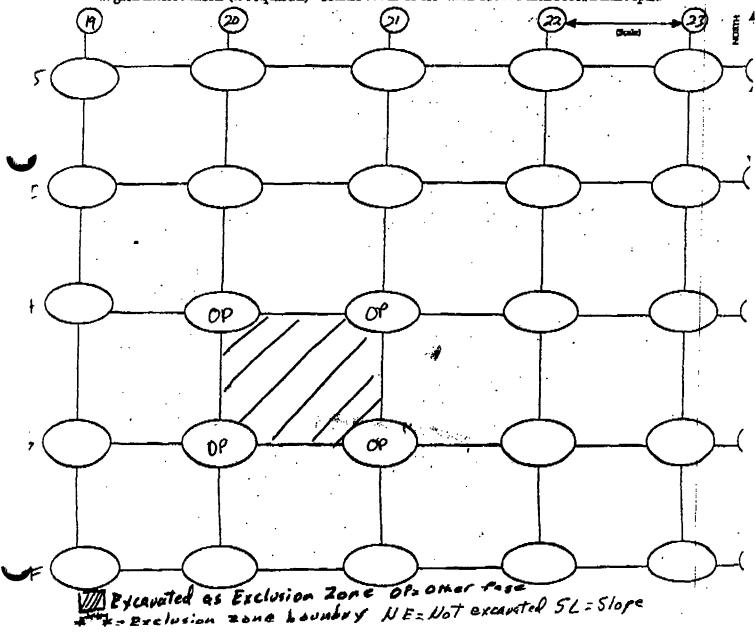
Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm.



VARJUANTED as Exclusion Zone Ora Date Transfer SL= Slope

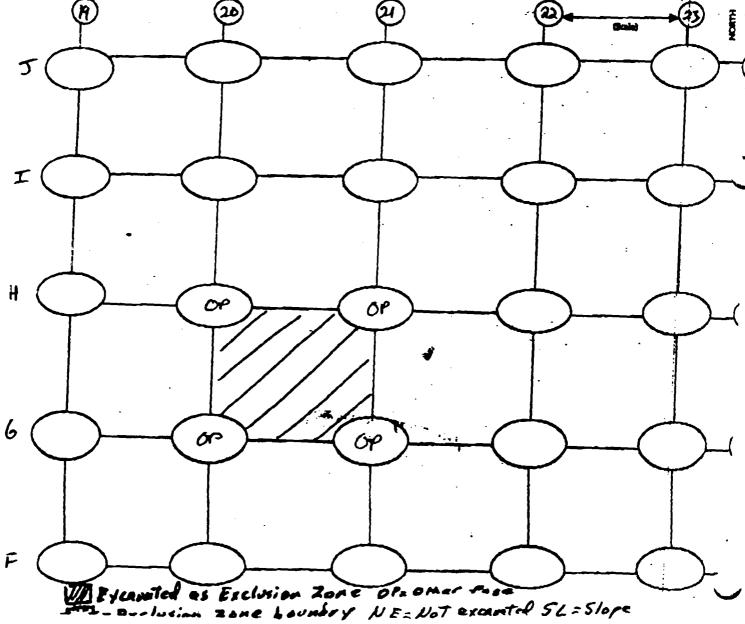
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STS Consultants, Lts	Project # <u>25585-XI</u>	Project Name _GMC	Page	2 of 6
Date	9/25/02	Technicis	n Jerry	Kraw Fre bs =
Inst. Model	udlum 2221	Serial No.	meter# 27242	168144
	l'x1"Nal / 2"x2" Nal Shielded / Not Shielded	Lift Elevat	tion	· · · · · · · · · · · · · · · · · · ·
Background	4K - GK	.cpm Action Les	vel: 21,07	2 <u> </u>



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STE Consultation.	Project # 25585-XI	Project	Name GMO Page 3 of C			
Date	9/25/02	·.	Technician Jerry Kraul	-		
Inst. Model	Ludlum 2221	:	Serial No. 127242 168144	•		
Probe Type:	1'x1"Nal / 2"x2" Nal Shielded / Not Shielded		Lift Elevation	•		
Background	4K-6K	cpm	Action Level 21,072 cpm			
Write grid de	esignations in circles. Record	l highest courses of elev	ounts for grid in open. Record 30 second count vated counts and record max open.	ts		
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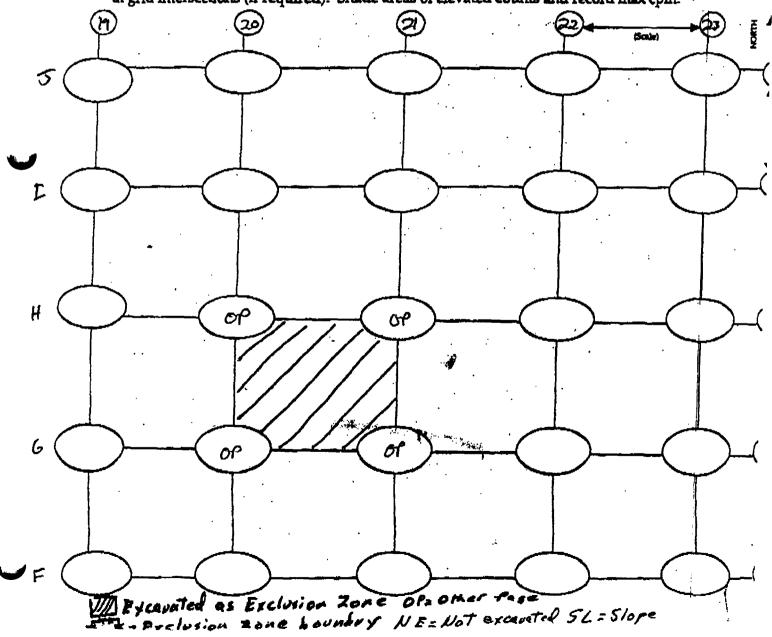
	Project # 25585-XI	Project Name GMO	Page 4 of 6
TS Consultants, Ltd.		N. Carlotte	
	alacto2	Martinetari	

Date 4/25/82 Technician Serry Kraum meter # / Free # Serial No. 127242 168/44

Probe Type: 1'x1"Nal / 2"x2" Nal Lift Elevation -4.5'

Shielded / Not Shielded

Background 4 K - 6 K cpm Action Level 21 072 cpm

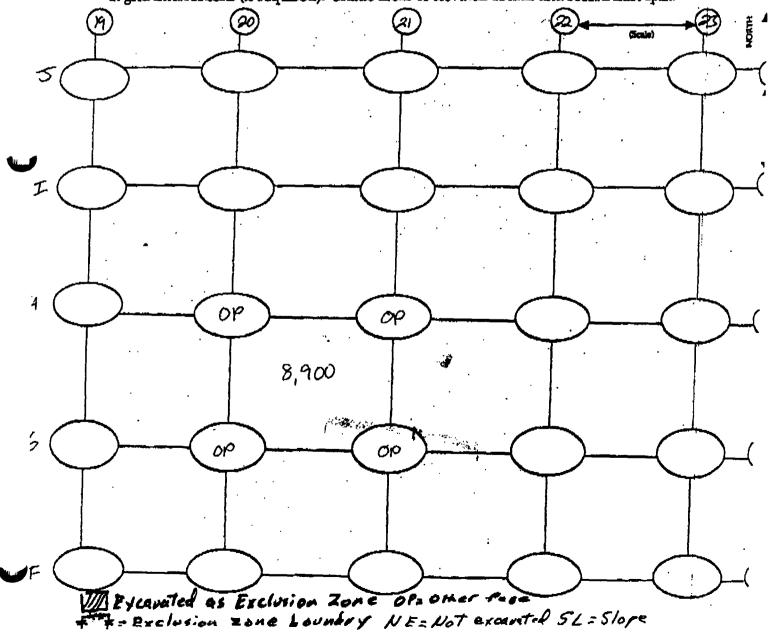


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	Date	9/25/02	Te	chnician	Serry Kran	- 22
	Inst. Model	Ludlum 2221	Ser	iel No. 1272		144
	Probe Type:	1'x1"Nal / 2"x2" Nal Shielded / Not Shielded		Elevation		<u>.</u>
	Background_	4K-6K	_ cpm Act	ion Level	21,072	cpm
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	Project # 25585-XI	Project Na	me GMO	Page _ 6 of 6			
518 Consultants, Ltd.	9/25/02	· · ·	Technician	Jeny	Kan		
	udlum 2221		Serial No	moter# 127242	16814		
Probe Type: 1'	x1"Nal / 2"x2" Nal nielded / Not Shielded		Lift Elevatio	m <u> </u>	.5'	. '	
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at grid intersections (if required): Shade areas of elevated counts and record max cpm.



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Date	9/26/02/9	127/02	Technician Se	My Krane	<u></u>
Inst. M	todel Ludlum 22	121	Serial No. 1272	142 168144	
Probe '	Type: 1'x1"Nal / 2"x2" Shielded / Not S	Nal Ruelded	Lift Elevation	Surface	_
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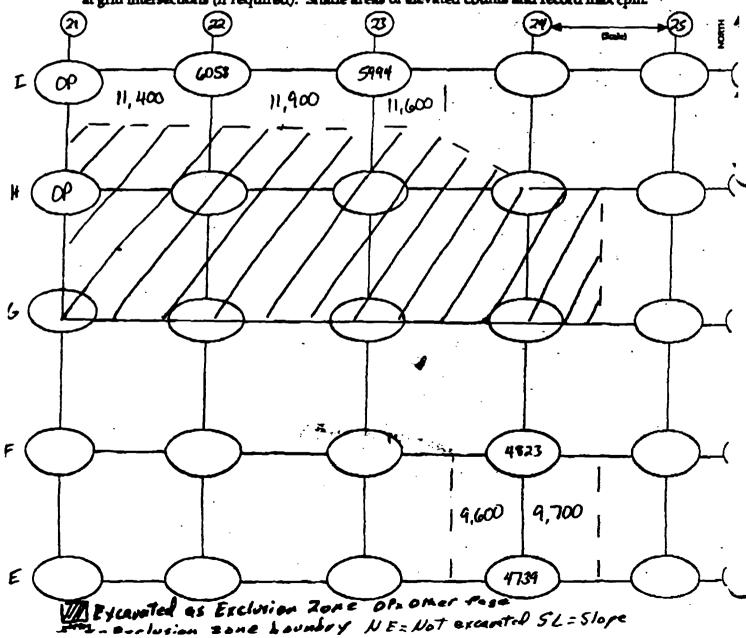
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		Project # <u>25585-XI</u>	Project Name _GMO	Page _2 of _6
	STS Consultants, I	126 102 / 9/27/02	Technician	Jerry Krane
		Ludlum 2221	Serial No.	Jerry Krane motor# Frede # 127242 168144
		1'x1"Nal / 2"x2" Nal Shielded / Not Shielded		on
	Background_	5k - 7k	_ cpm Action Leve	1 21,072 cpm
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STE Common Ltd.	Project # _255@S-XI	Project N	Name GMO Page 3 of 6
	16/02 / 9/27/02		Technician Serry Krau
	udlum 2221	:	Technician Serry Kraul motel # Frote # Serial No. 127242 168144
Probe Type: 1'	x1"Nal / 2"x2" Nal nielded / Not Shielded		Lift Elevation
Background	SK -7K	_ cpm	Action Level 21,072 cpm



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	Project # <u>25585-XI</u>	Project Na	me <u>GMO</u>	Page	_ of <u>_ (</u> _
STS Consultante, I				L	
Date	9/26/02 / 9/27/02	<u>-</u>	Technician	Jerry Kra	robe to
Inst. Model	Ludium 2221		Serial No/2	7242 / 16	68144
Probe Type:	1'x1"Nal / 2"x2" Nal Shielded / Not Shielded		Lift Elevation	-4.5	A.M
Background_	5K - 7K	cpm	Action Level	21,072	cpm
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	Project # 25585-XI	Project Name	MO	Page 5	of 6
Date 9	126/02 / 9/27/02	Tech	nician J	eny Ky	no be 21
Inst. Model	Ludlum 2221		No. 1276	142 16	3144
Probe Type:	1'x1"Nal / 2"x2" Nal Shielded / Not Shielded	Lift E	levation	-6.0	
Beckground	5K - 7K	cpm Actio	n Level	21,072	cbw
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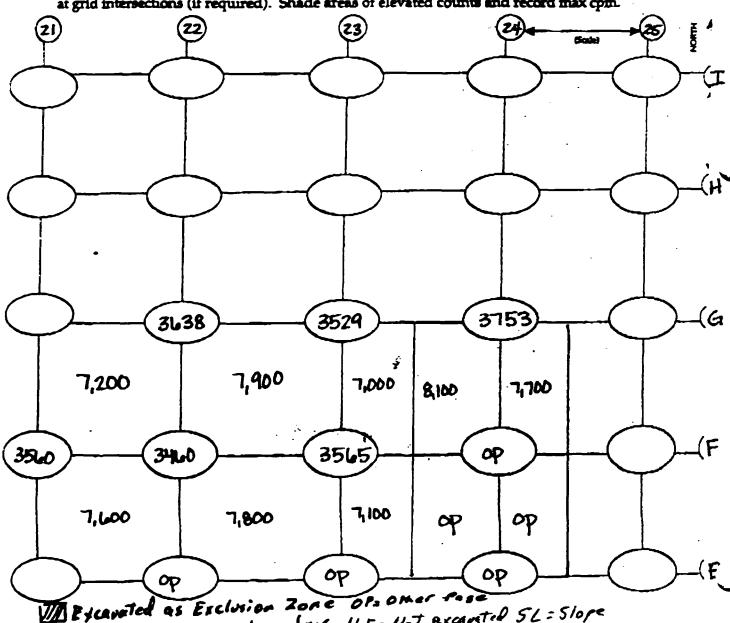
	22	Project # _25585-X1	•	me <u>GMO</u>	_	f_6
		126/02/9/27/02		Technician	Serry Kang tory Fro	hc 28
	•	1'x1"Nal / 2"x2" Nal Shielded / Not Shielded	 	Lift Elevation		
	Background_	5k-7k	_ cpm	Action Level	21,072	_ cpm
	Write grid de	signations in circles. Record : ections (if required). Shade as	highest count reas of elevate	s for grid in cpm. d counts and rec	Record 30 second max cpm.	rd counts
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RADIATION SURVEY FORM

	Project # <u>25585-XI</u>	Project Naz	ne GMO	Page of 6
STS Consultano.	_			
Date 9	zuloz & 9/30/02	·	Technician L.F.	<i>l</i> schim
_	Ludlum 2221			168148
Probe Type:	1'x1"Nal /2"x2" Nal Shielded / Not Shielded		Lift Elevation Su	rtace
Background_	5-7 K	. cpm	Action Level <u>20</u>	909 cpm

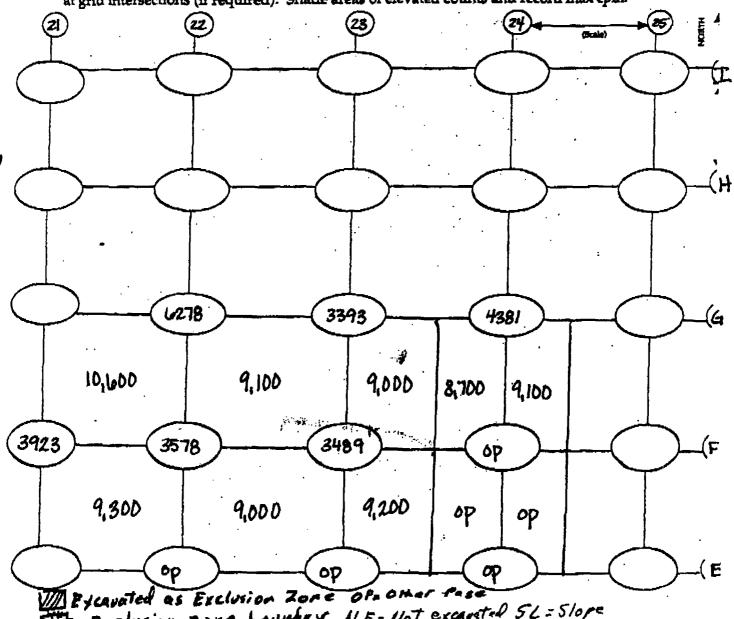
Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm.



Loundry NE= Not excepted 51=510pe

	Project # <u>25585-XI</u>	Project Name GMO Page	2 of 6
STS Consultants, Ltd. Date 9/21	102 \$ 9/30/02	Technician L. Aschi	im
	udlum 2221	Meter # Serial No. 132844	168148 168148
Probe Type: 1	xi"Nal / 2"x2" Nal hielded / Not Shielded	Lift Elevation1.5	
Background 5	-7 K	_ cpm Action Level _20,909	cpm

Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm.



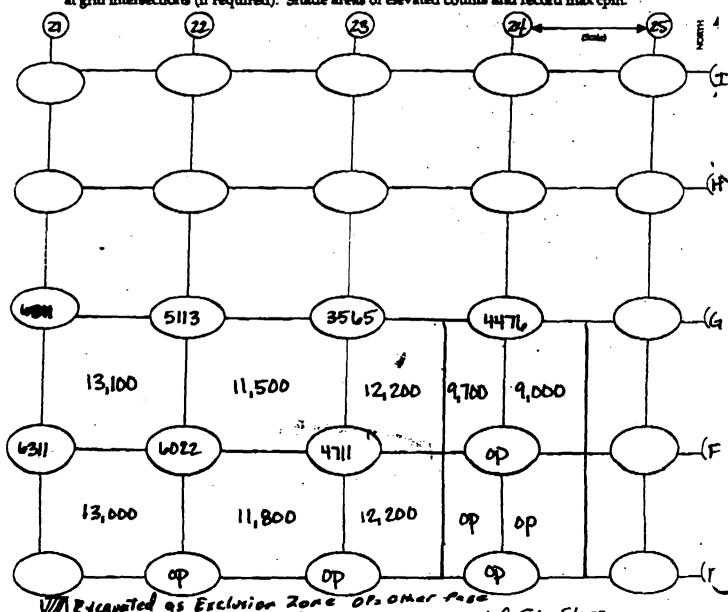
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RADIATION SURVEY FORM

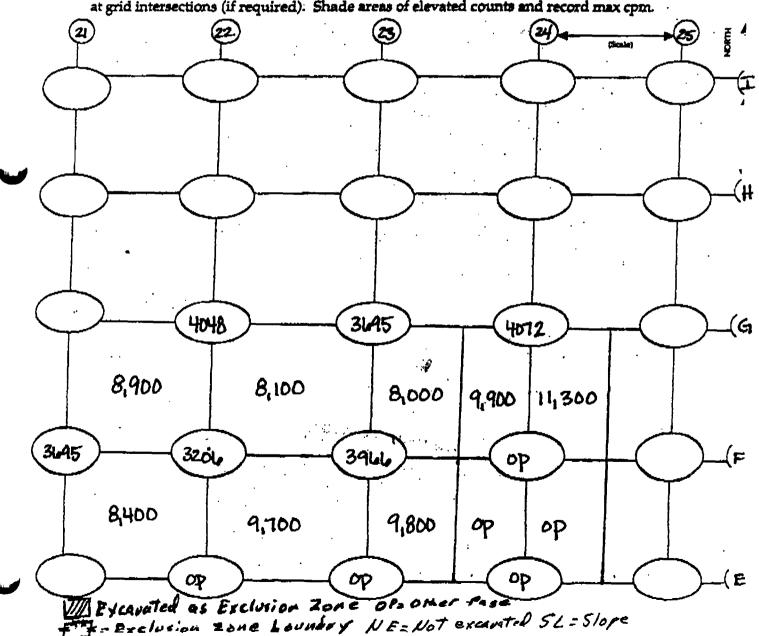
STS Considered Lief.	Project # 25585-XI	Project Name	GMO Pag	e 3 of 6
· ·	102 \$ 9/30/02	Te	chnician L. Asc	nim
Inst. Model	dlum 2221	Se	chnician <u>L. Asel</u> meter # rial No. <u>132844</u>	168148
Probe Type: 15	x1"Nai /2"x2" Nal nielded / Not Shielded /	Lif	t Elevation <u>-3'</u>	· ·
Background	5-7 K	.cpm Ac	tion Level <u>20,90</u>	9 cpn

Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm.



Planeted as Exclusion Zone District SL=Slope

	Project # <u>25585-XI</u>	Project N	Vame GMO	Page	of <u>le</u>
Date	1/26/02 \$ 9/30/02		Technician L.	Aschim	
Inst. Model	Ludlum 2221	· · · · ·	Technician L. Men Serial No. 1328	344 168	148
Probe Type:	1'x1"Nal / 2"x2" Nal Shielded / Not Shielded		Lift Elevation	<u>- 4.5</u>	
Background_	5-7 K	_ cpm	Action Level <u>2</u>	0,909	— cbw



Project Name GMO Project # 25585-XI

STS Committee

9/21/02 \$ 9/50/02 Date

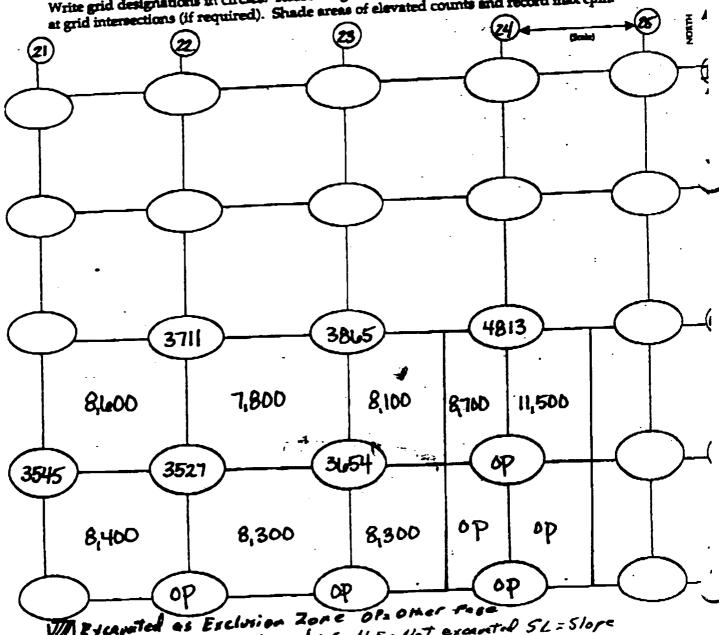
Inst. Model Ludlum 2221

Probe Type: 1'x1"Nal / 2"x2" Nal Shielded / Not Shielded

Background 5-7 K cpm Technician_ Serial No. 132844 168148 Lift Elevation

20,909 Action Level :__

Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm.



Loundry NE= Not exampled SL=Slope

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	Project # 25585-XI	Project Na	me_GMO_	Page	of_	<u></u>
Date 9/21	02 \$ 9/30/02		Technician_	L. Asc	him	- 37
		· ·	Serial No.	32844	16814	
Probe Type: 1'x1"	Nal / 2"x2" Nal					· ·
lackground 5-	1 K	cpm	Action Level	20,904	<u></u>	cpm
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Probe Type: 1'x1"Nal / 2"x2" Nal Shielded Not Shielded Lift Elevation	$\overline{}$)				
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S	Project # 25585-XI		ON SURVEY FORM The GMO Page 1 of 6
Date 9/Z	•	· ·	Technician Aschim
Inst. Model	Ludlum 2221	·	Serial No. 132844 168148
Probe Type:	1'x1"Nal /2"x2" Nal Shielded Not Shielded		Lift Elevation Surface
Beckground_	5-7K.	_ cpm	Action Level 20, 909 cpm
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	•	Marine Committee		·.		•
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		Project # <u>25585-XI</u>	Project Na	ime GMO	Page 2	of <u>le</u>
	Date 9	27/02		Technician A	schim	y &c2
	Inst. Model	Ludlum 2221		Serial No. 1328	344 /16	3148
	Probe Type:	1'x1"Nal / 2"x2" Nal Shielded / Not Shielded		Lift Elevation _	-1.5	
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Exclusion zone Loundry NE= Not excavated 5L= Slope

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STS Connections, Ltd.	Project # 25585-XI	Project Na	me_GMC	2	Page 3	of Le
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	Project # _25585-XT	Project N	ame_GMOP	age 4 of Le
Date 9	127 D2		Technician ASCH	im
Inst. Model _	Ludlum 2221	:	Serial No. 132844	168148
•	1'x1"Nal / 2"x2" Nal Shielded / Not Shielded		Lift Elevation45	•
Background_	5-1 K	cbw	Action Level 20,90	9 cpm
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	Project # 25585-XI	Project Naz	ne_GM	2P	age <u>5</u> (of le
Date 927	02		Technicia	m Aschi	m	de H
Inst. Model	11um 2221		Serial No	132844	• , -	_
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STS Consultants, Ltd.		Tech	nicien	Aschim	Probe	
Date 9/27/1		Serie	1 No. <u>132</u>	844	168148	
	I'Nal /2"x2" Nal	Lift	Elevation	-7.5		·
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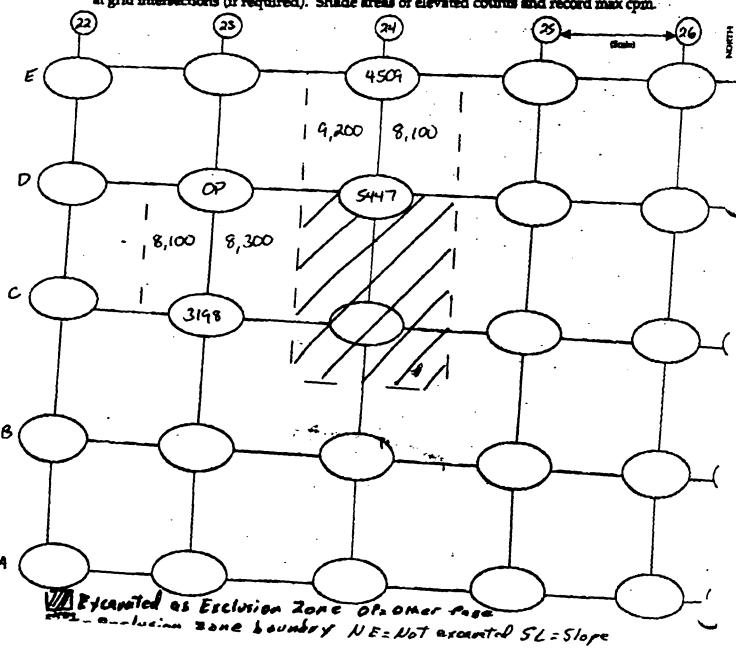
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22	Project # 25585-XI	Project Name _GMO	Page _ / of _ 6
STS Consultante, L	·	× .	•
Date 4	130/02 / 10/01/02	Technician	Jerry Kraue
Inst. Model _	Ludlum 2221	Serial No	motor# Probe # 127242 168144
	1'x1"Nal / 2"x2" Nal Shielded / Not Shielded	Lift Elevati	on <u>Surface</u>
Background_	SK-7K	_ cpm Action Levi	el 21,072 cpm

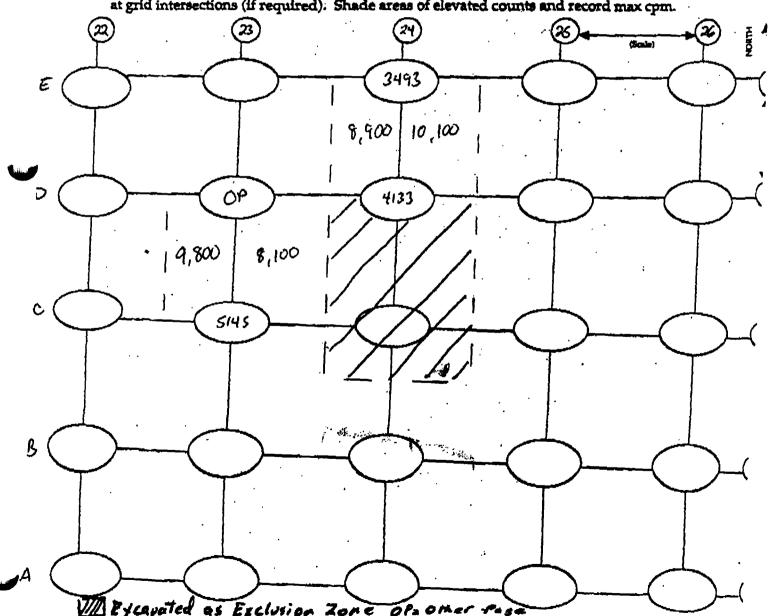
Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm.



RADIATION SURVEY FORM

STS Consultants, Ltd.	Project # 25585-XI	Project N	Vame GMO	Page	2 of 6
Date 9 30	102/10/01/02	Υ.˙	Technician.	Jerry	Krave #
Inst. Model	dlum 2221	:	Serial No.	127242	168 144
Probe Type: 1':	c1"Nal / 2"x2" Nal delded / Not Shielded			on	
Background	SK -7K	cpm	Action Leve	1. 21,0	72 cpm

Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm.



-lusion zone Loundry NE= Not example 56= Slope

RADIATION SURVEY FORM

STS Consultants, Ltd.	
Date 9/30/02 / 10/01/02 Technician 5	Em Kraue
	erry Krawe 67 to 100 to 12 042 168144
Inst Model Ludlum 2221 Serial No. 1276	
Probe Type: 1'x1"Nal / 2"x2" Nal Lift Elevation Shielded / Not Shielded	- 3.0
••••••	21,072 cpm
Write grid designations in circles. Record highest counts for grid in cpm. at grid intersections (if required). Shade areas of elevated counts and record	Record 30 second counts rd max cpm.
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	Project # <u>25585</u>	<u>-XI</u> Project N	ame GMO	Page 4 of 6	_
STS Consultants, Ltd	•	` ∀ ¹ ,			
Date <u>91</u>	30/02/10/01/02	·,	Technician 5	my Kraue	_
Inst. Model 🗘	udlum 2221	<u> </u>	Serial No. 127	242 168144	-
	'x1"Nal / 2"x2" Nal hielded / Not Shielde	d	Lift Elevation	- 4.5'	
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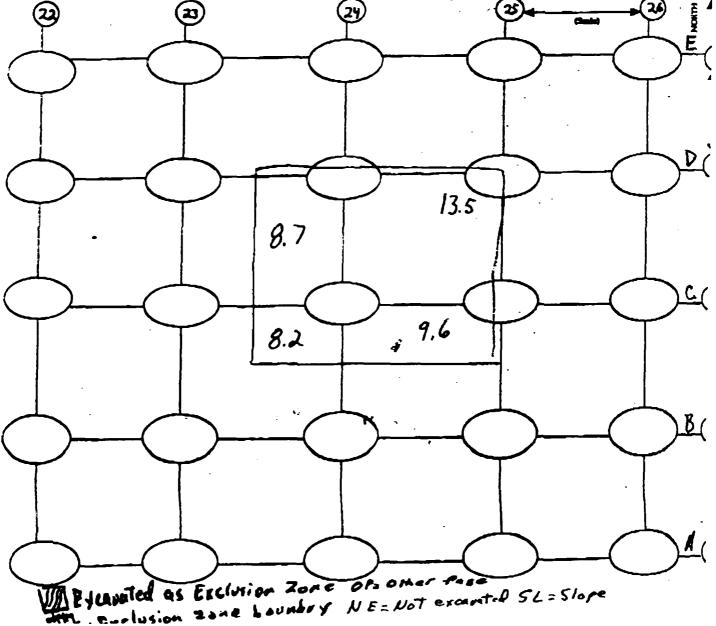
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	SK	Project #_2		ect Name _GMO		6
	STS Consultation. I	•		Technician	Jerry Krau	u_
		Ludlum 22	-	Serial No/2	17242 1611	144 144
	Probe Type:	1'x1"Nal / 2"x2". Shielded / Not S	Nal hielded	Lift Elevation	-6.0'	·`
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STS Consultants, La	· · · · · · · · · · · · · · · · · · ·	25585-XI	Project Naz	ne_GMO	Page6	_of_ <u>_</u>
Date _ 4	130 102 / 10 p		 ,	Technician	Jeny Kn eter#	robe #
	1'x1"Nal / 2"x2" Shielded / Not S		. •	Lift Elevation	-7.5	
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SE	Project # _25585-XT		ON SURVEY FOR	RM Page of
Date	1/02		Technician Tip	Brien Probe #
Inst. Model 🗘	11/m 2221	<u></u>	Serial No. 12724	168144
Probe Type: 1's	x1"Nal / 2"x2" Nal vielded Not Shielded		Lift Elevation	Pre EPA
Background	7-8K'	_ cpm	Action Level 2	1,072 cpm
Write grid desig	nations in circles. Record long (if required). Shade ar	highest count	e for grid in cpm.	Record 30 second count rd max cpm.
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J	<u>ea</u>	Project # <u>25585-XI</u>		ON SURVEY FOR	RM Page	of 2
	STS Consultants. Date	11/02		Technician Tie	OBrien	0 4c #
	Inst. Model	Ludlum 2221		Technician Ting	1681	
	Probe Type:	1'x1"Nal / 2"x2" Nal Shielded Not Shielded	·	Lift Elevation _	Pre EPA	· !
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Date			Technician 11	m OBres	- be 35
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Exclusion Zone Or One formatel SL=Slope

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RADIATION SURVEY FORM Project # 25585-XI Project Name GMO I

Date 10/1 02 Technician L. Aschim

Inst. Model Ludlum 222/

Probe Type: 1'x1"Nal 2"x2" Nal
Shielded Not Shielded

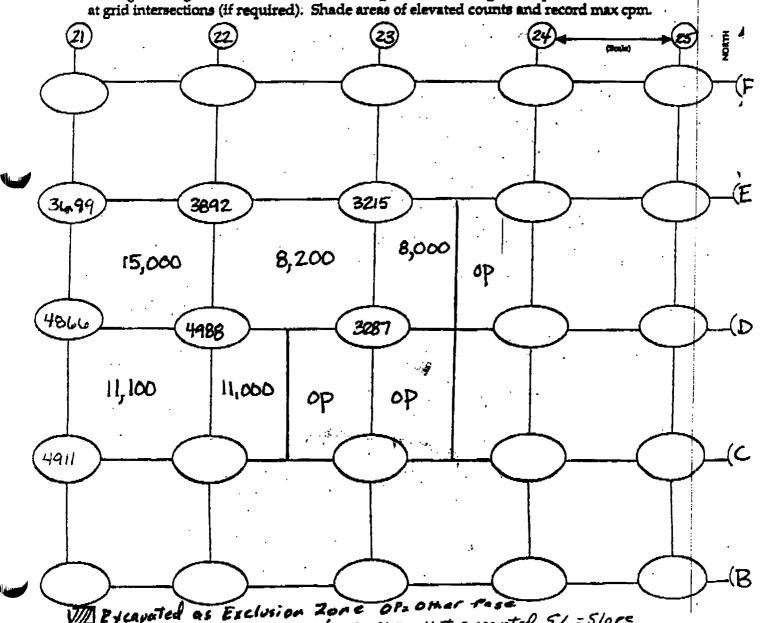
Technician L. Aschim

meter # / Frobe & Serial No. 132844 / 168148

Lift Elevation Surface

Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts

Action Level : 20, 909



Pricavated as Exclusion Zone OP= OME Tage

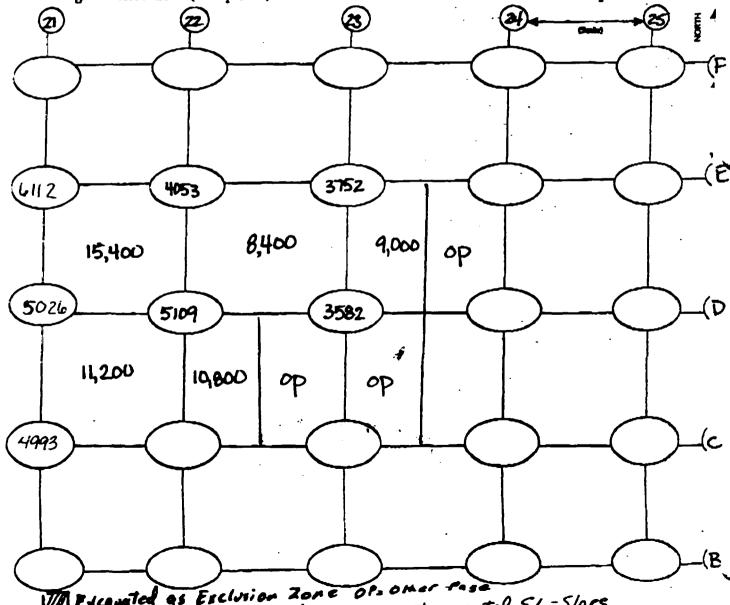
The Exclusion Zone Loundry NE= Not excavated 5% = 5/0 pe

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RADIATION SURVEY FORM

	Project # 25585-XI	Project Name GMO	Page_	2 of <u>b</u>
STS Consultants, Ltd.	•		•	
Date 10/1	02	Technician	<u>L.Aschir</u>	η
	11um 2221	Serial No.	motor# 132844	168H8
	"Nal / 2"x2" Nal elded / Not Shielded		ion <u>-1.5'</u>	
Background 4-	D K	cpm Action Lev	rel <u>20,909</u>	cbw

Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm.



Pycapited as Exclusion Zone Of Domer + 28 - Store Loundry NE - Not excepted SL = Slope

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		Project #	25585-XI	Project N	ame_GMC) Pa	ge <u>3</u> of	<u>la</u>
	\$15 Consultants,	Lind.				•	•	
	Date	0/1/02		· 	Technician	L.Asch	I'M	Fe- 33
	Inst. Model	Ludlum 2	221		Serial No.,		16814	1 8
	Probe Type:	1'x1"Nal 2"x Shielded No	2" Nai rt Shielded	, _	Lift Elevat	ion <u>-3'</u>		-
	Background	4-10 K		_ cpm	Action Lev	el 20,9	09	_ cpm
	Write grid de	signations in ci ections (if requi	rcles. Record : red): Shade a	highest cour reas of eleva	nts for grid in ted counts an	com. Record ma	d 30 second x cpm.	d counts
(ZI		22		3	\ 	24	Scale)	25
		$\overline{}$, (1
388		(3707)	(35	301				
Joq	9 /	3.07						
	87800	1	1,900	8,700	ор		:	
4612		3793	31	40		<u> </u>) _0
	9,400	10,300	OP	9			·	
(450)				OP			أنا	_(c
1301								
				·				
	<u> </u>					<u> </u>)_(E
V	Pycavate + = = = lu	d as Exclusion zone	ion Zone Laundry	NE= No	t excaveted	0 5L = 510	re	

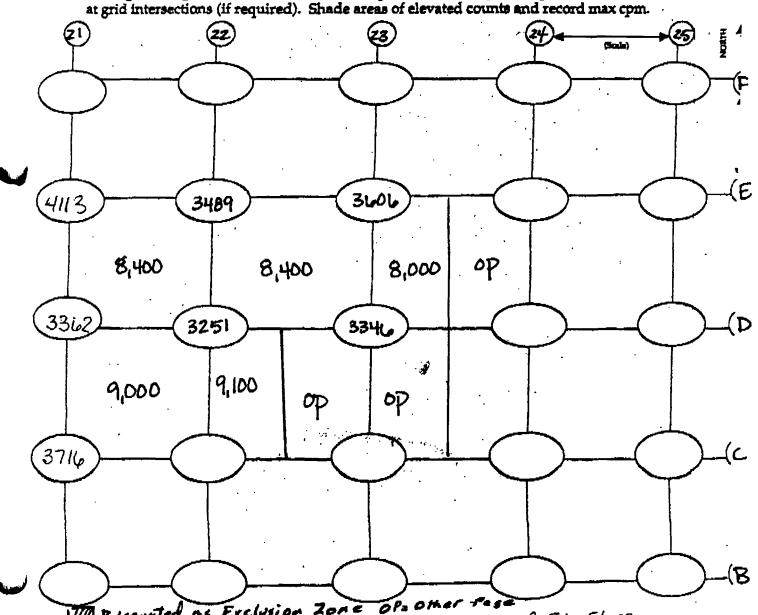
SC	Project # _25585-XI		ON SURVEY FOR	LM Page 4 0	f. la
STS Coursitants, Ltd. Date	· · · · · · · · · · · · · · · · · · ·		Technician L.	Aschim	
	udlum 2221			Part Pro	48
Probe Type: 1	'x1"Nal / 2"x2" Nal hielded / Not Shielded		Lift Elevation	-4.5'	·
Beckground	1-10/6	_ cpm	Action Level 21	0,909	_ cpm
Write grid design at grid intersect	gnations in circles. Record l tions (if required). Shade ar	highest count	ts for grid in cpm. ed counts and reco	Record 30 secord max cpm.	nd counts
2 1	(2)	3	24)4	(Scale)	85 1 2 4
	\bigcirc		$\overline{}$		t.
(4266)	3174	79			- (L
8800	9,200	8800	op	ŧ	·
4997	3398 38	52)-(D
12,100	19800 OP	øp.		·	:
5014			-)_(c
		<u> </u>)_(P
2 transfed	as Exclusion Zore	OP= OMe NE=Not	excapted 5L	= Slope	

SS	

RADIATION SURVEY FORM.

	Proje	ect# <u>25585-XI</u>	Project No	me GMO	Page _	5 of <u>Le</u>
STS Consultants, I	•	· · ·	N.			
Date _ 10	11/02		<u> </u>	Technician L.	Aschi	M
Inst. Model		2221	; .	Serial No. 132	344	168148
Probe Type:	1'x1"Nal / Shielded	2"x2" Nal Not Shielded		Lift Elevation	<u>- þ'</u>	· '
Background_	4-10K		_ cpm	Action Level	20,909	cpm

Write grid designations in circles. Record highest counts for grid in cpm. Record 30 second counts at grid intersections (if required). Shade areas of elevated counts and record max cpm.



Pycavated as Exclusion Zone Of Other Tage

The Exclusion Zone Loundry NE = Not excavated 51 = 5/0 pe

तर		RADIATI	ON SURVEY FOR	M	
STS Countilmen, Ltd.	Project # 25585-X1	Project No	eme_GMO	Page Le of	<u>le</u> .
Date 10/1	102		Technician L.	Aschim	: :
Inst. Model	12/m 2221	·	Serial No. 1328	- ,	
Probe Type: 1's Sh	ielded Not Shielded		Lift Elevation	7'	
Background_4	-10 K	_ cpm	Action Level 20	0, 909	cpm
Write grid design at grid intersection	nations in circles. Record i ons (if required). Shade at	highest coun	ats for grid in cpm. 1 ted counts and recor	Record 30 second d max cpm.	counts
A	②	3	24)-	State S	E 4
	\rightarrow	\rightarrow)-(F
				-	
(3012)	3034) (37)	173)-(E
					+
7,900	8,600	8,100	OP	÷	
3119	3121	3 10)_(D
8,500	8,460 OD	6 OD			: :
3321					
					,
)_(P
Excapited a	s Exclusion Zone	NE-NAT	examina 5L=	Slope	



APPENDIX L

Equipment Release Survey Results

SURVEY REFERENCE #: OO/

6/6/02 DATE OF SURVEY:

dpm

NAME OF SURVEYOR: Learn Salt

SURVEY METER IDENTIFICATION: Mfg: Ludlum

Model: → Background Reading: O.O. mR/hr

Serial: // 4750

Background Reading: 0.53cpm Mfg: Ludlum

Model: 2200 (scaler) / 43-10 (alpha)

Efficiency: 0.351 % Serial: 102770 / PR113195 MDA: 8.71

Description (attached sketch if needed) (Area, equipment, vehicle, materials, etc.)	Item #	Gross mR/hr	Gross cpm	dpm per 100 sq. cm
MIETAL quarterel posts	/	102	0	0
removed from grand	2	υD	0	0
= apprex 20 hh/	3	,02	/	1.33
2 approx 20 ht/l 5 wifes	4	20,	/	7.33
	5	.02	0	0
All surge @ Bkg Keels				
	<u> </u>			
			-	
	+			
<u></u>	 			
				
				
	 			
<u> </u>				

SURVEY REFERENCE #: Q

6/13/02 DATE OF SURVEY:

Tra OBres NAME OF SURVEYOR:

Mfg: Ludlum SURVEY METER IDENTIFICATION:

Background Reading: __ oa_ mR/hr Model: →

Serial: // 4750

INSTRUMENT ID: Mfg: Ludlum

Background Reading: O.6 cpm Model: 2200 (scaler) / 43-10 (alpha)

Efficiency: 0.351 % Serial: 102770 / PR113195

MDA: 8.71 dpm

Description (attached sketch if needed)	Item	Gross	Gross	dpm per
(Area, equipment, vehicle, materials, etc.)	#	mR/hr	cpm	100 sq. cm
Concrete Chunks that mark	_ /	,07	0	0
removed from B-45	ಎ	E 0 -	/	1.14
frelision Rost	3	. 02	0	0
	4	. 02	9	4
Servered ofter power weeking		.02		1.14
off contamination = 911				
Pieces Still contaminated were lorded into KM trucks				
lorded into KM trucks				
			·	

341

SURVEY REFERENCE #: 7

DATE OF SURVEY: 6/18/02

NAME OF SURVEYOR: L Smith

SURVEY METER IDENTIFICATION:

Mfg: Ludlum

Background Reading: ____O2_mR/hr

Model: 3

Serial: //4750

INSTRUMENT ID:

Mfg: Ludlum

Background Reading: - 53 cpm

Model: 2200 (scaler) / 43-10 (alpha)

Efficiency: 0.351 MDA: 8.71

MDA. 0.71 upm				
Description (attached sketch if needed)	Item	Gross	Gross	dpm per
(Area, equipment, vehicle, materials, etc.)	#_	mR/hr	cpm	100 sq. cm
Concrete Chunk that was removed		.02	0	0
from E6 Exclusion Zone	2	.02	1	1.3
(10 Swipes of Elevator Shaff Concrete)	3	.02	1	1,3
	4	ړه.	0	0
	5	,02	0	
	6	,02		1.3
	7	,02		1.3
	8	,02	д	0
	9	,02	0_	()
	10	.02		1.3
			···	
			· · · · · · · · · · · · · · · · · · ·	
	لـــــــــــــــــــــــــــــــــــــ			

SURVEY REFERENCE #: 3 4

DATE OF SURVEY: 6/18/02

NAME OF SURVEYOR: L Smith

SURVEY METER IDENTIFICATION:

Mfg: Ludlum

_*. 0*2_mR/hr Background Reading:

Model: 3

Serial: 114750

INSTRUMENT ID:

Mfg: Ludlum

Background Reading: . 53 cpm

Model: 2200 (scaler) / 43-10 (alpha)

Efficiency: 0.351 % MDA: 8.71

Description (attached sketch if needed)	Item	Gross	Gross	dpm per
(Area, equipment, vehicle, materials, etc.)	#_	mR/hr	cpm	100 sq. cm
Concrete chunks that were removed		.02	/	# 1,3 Tm
from D6-10 Exclusion Zone	2	,02	1	2 1,3 1
	3	.02	2	4. 2
	14	.02	1	1.3
	5	.02	4	# 9.9 V
	6	.02	0	6
	1			
	-			
	 			
	 			
	+	 		
	 	ļ ————		
	ــــــــــــــــــــــــــــــــــــــ		L	

SURVEY REFERENCE #: 3 5

DATE OF SURVEY: 9-20-62

NAME OF SURVEYOR: Justin Hubbert

SURVEY METER IDENTIFICATION:

Mfg: Ludlum

Background Reading: . Oa mR/hr

Model: 3

Serial: 114750

INSTRUMENT ID:

Mfg: Ludlum

Background Reading:, 56 cpm

Model: 2200 (scaler) / 43-10 (alpha)

Efficiency: 0.351 MDA: 8.71 dpn

NIDA: 8.71 apm	,		···	
Description (attached sketch if needed)	Item	Gross	Gross	dpm per
(Area, equipment, vehicle, materials, etc.)	#	mR/hr	cpm	100 sq. cm
Concrete Man hole from E-10	l	.02	T	1.25
exclusion Zone	2	.02	2	4.10
	3	.02		1.25
	4	.02	2	4.10
	5	.02	0	0
	6	.02	0	0
	7	.0a	0	0
				
				
		L		

SURVEY REFERENCE #: 3 (

DATE OF SURVEY: 9-20-02

NAME OF SURVEYOR: L Smith

SURVEY METER IDENTIFICATION:

Mfg: Ludlum

.00 mR/hr Background Reading:

Model: 3

Serial: [14750

INSTRUMENT ID:

Mfg: Ludlum

Background Reading: , 56 cpm

Model: 2200 (scaler) / 43-10 (alpha)

Efficiency: 0.351 MDA: 8.71

Description (attached sketch if needed)	Item	Gross	Gross	dpm per
(Area, equipment, vehicle, materials, etc.)	#	mR/hr	cpm	100 sq. cm
Concrete from foundation	1	.02	2	4.10
	2	.02	2	4.10
	3	-02		1.25
	4	.02	1	1.25
	5	.02		1.25
	6	.02	ð	4.10
	7	,02	9	4.10
	8	.02	1	1.25
				
L				

SURVEY REFERENCE #: 7

DATE OF SURVEY 6-21-02

NAME OF SURVEYOR: Tim O'Brien

SURVEY METER IDENTIFICATION:

Mfg: Ludlum

Background Reading: Od mR/hr

Model: 3

Serial: 114750

INSTRUMENT ID:

Mfg: Ludlum

Background Reading: ,5 } cpm

Model: 2200 (scaler) / 43-10 (alpha)

Efficiency: 0.351 MDA: 8.71

dpm

Description (attached sketch if needed) (Area, equipment, vehicle, materials, etc.)	Item #	Gross mR/hr	Gross cpm	dpm per 100 sq. cm
Concrete footing from E-5		.02		1.3
	2	.0a		1.3
	3	.02	2	4.1
	4	.02	0	0
	5	,02	\mathcal{A}	4.1
	6_	.02		1,3
				
			- 	

341

SURVEY REFERENCE #: 8

DATE OF SURVEY: 6-24-62

NAME OF SURVEYOR: L Smith

SURVEY METER IDENTIFICATION:

Mfg: Ludlum

Background Reading: ,02 mR/hr

Model: 3

Serial: 114750

INSTRUMENT ID:

Mfg: Ludlum

Background Reading: ,73 cpm

Model: 2200 (scaler) / 43-10 (alpha)

Efficiency: 0.351 MDA: 8.71 dpm

NIDA: 8./1 dpm				
Description (attached sketch if needed)	Item	Gross	Gross	dpm per
(Area, equipment, vehicle, materials, etc.)	#	mR/hr	cpm	100 sq. cm
Bucket of Backhoe that was	I	,02	1	. 76
leaving the site and the tredds	a	.02		. 76
	3	.02	0	0
	4	.02		.76
	5	.02	a	3.62
	6	.02	0	
		.02	1	.76
	8	.02		.76
	9	.02	1	.76
	10	.02	0	0
	11	609	0	0

SURVEY REFERENCE #: 9

DATE OF SURVEY: 7-1-02

NAME OF SURVEYOR: L Smith

SURVEY METER IDENTIFICATION:

Mfg: Ludlum

Background Reading: ,Oa mR/hr

Model: 3

Serial: 114750

INSTRUMENT ID:

Mfg: Ludlum

Background Reading: .66 cpm

Model: 2200 (scaler) / 43-10 (alpha)

Efficiency: 0.351 MDA: 8.71 dpm

MDA. 6.71 upui		T		1
Description (attached sketch if needed)	Item	Gross	Gross	dpm per
(Area, equipment, vehicle, materials, etc.)	#	mR/hr	cpm	100 sq. cm
	12	.02	2	3.81
Concrete footings	13	.02	à	3.81
J	14	•05	à	3.81
	15	.02	l	,97
	16	.02	0	0
	17	.09	1	.97
	18	.02	2	3.81
	19	.02	2	3.81
				
				

SURVEY REFERENCE #: /()

DATE OF SURVEY: 7-1-02

NAME OF SURVEYOR: L Smith

SURVEY METER IDENTIFICATION:

Mfg: Ludlum

Background Reading: __O__ mR/hr

Model: 3

Serial: //4750

INSTRUMENT ID:

Mfg: Ludlum

Background Reading: .66 cpm

Model: 2200 (scaler) / 43-10 (alpha)

Efficiency: 0.351

MDA: 8.71

Item #	Gross mR/hr	Gross cpm	dpm per 100 sq. cm
	.02		.97
		<u> </u>	3.82
— ک	.02	o ⁄	3.82
- 			
			<u> </u>
			<u> </u>
			
			1
	· · · · · · · · · · · · · · · · · · ·		
			
			
	#	2 .02	1 .02 2

SURVEY REFERENCE #: / 1

DATE OF SURVEY: 7-2-02

NAME OF SURVEYOR: Justin P Hubbert

SURVEY METER IDENTIFICATION:

Mfg: Ludlum

Background Reading: _.Od__mR/hr

Model: 3

Serial: 1/4750

INSTRUMENT ID:

Mfg: Ludlum

Background Reading: , 6 cpm

Model: 2200 (scaler) / 43-10 (alpha)

Efficiency: 0.351

MDA: 8.71 dpm

Description (attached sketch if needed) (Area, equipment, vehicle, materials, etc.)	Item #	Gross mR/hr	Gross	dpm per 100 sq. cm
(Area, equipment, venicie, materials, etc.)	1	.02	cpm 3	6,84
G-2 Concrete from exclusion zone	2	.02	Ī	1.14
	3	.02	0	0
	4	.02	0	0
	5	.02	1	1.14
	6	,02	0	0
	<u> </u>			ļ
		ļ		
	ļ			
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SURVEY REFERENCE #: | 2

DATE OF SURVEY: 7-3-02

NAME OF SURVEYOR: Glenn Huber

SURVEY METER IDENTIFICATION:

Mfg: Ludlum

Background Reading: _____ mR/hr

Model: 3

Serial: 114750

INSTRUMENT ID:

Mfg: Ludlum

Background Reading: , 6 cpm

Model: 2200 (scaler) / 43-10 (alpha)

Efficiency: 0.351 Serial: 102770 / PR113195 MDA: 8.71

Description (attached sketch if needed)	Item	Gross	Gross	dpm per
(Area, equipment, vehicle, materials, etc.)	#	mR/hr	cpm	100 sq. cm
		.02	1	1.14
G-12 Concrate exclusion zone	2	.02	3	6.84
	3	.02		1.14
	4	.02	2	3.99
	5	.02	3	6.84
	6	.02	- 1	1.14
				

SURVEY REFERENCE #: 13

DATE OF SURVEY: 7-3-02

NAME OF SURVEYOR: G/2na Huber

SURVEY METER IDENTIFICATION:

Mfg: Ludlum

Background Reading: . O mR/hr

Model: 3

Serial: 114750

INSTRUMENT ID:

Mfg: Ludlum

Background Reading: . 6 cpm

Model: 2200 (scaler) / 43-10 (alpha)

Efficiency: 0.351

MDA: 8.71

Description (attached sketch if needed)	Item	Gross	Gross	dpm per
(Area, equipment, vehicle, materials, etc.)	#	mR/hr	срш	100 sq. cm
		.02	1	1.14
	2	.02	0	0
			-	

				·
			·	
				· · · · · · · · · · · · · · · · · · ·
	 -			
	 			
	11			

SURVEY REFERENCE #: 14

DATE OF SURVEY:

7/9/02

NAME OF SURVEYOR: Glen Huber / Justin Hubbert

SURVEY METER IDENTIFICATION:

Mfg: Ludlum

Background Reading: , O d mR/hr

Model: 3

Serial:

95059

INSTRUMENT ID:

Mfg: Ludlum

Background Reading: O. 3 cpm

Model: 2200 (scaler) / 43-10 (alpha)

Efficiency: 0.351 %

MDA: 8.71

41()+ (g) p

Description (attached sketch if needed)	Item	Gross	Gross	dpm per
(Area, equipment, vehicle, materials, etc.)	#	mR/hr	срт	100 sq. cm
From "G" Link in Exclusion Zunt.	101	بەن.	1	0,77
from "G" Link in Exclusion Zunt.	اد)	.02	/	0.77
	(1)	. u a	/	0,77
* All 3 had previous loose contamantes	(v)	<u>ڊن,</u>	3	6.47
* All 3 had previous twose contamantes	(1)	٠٠٧	3	6.47
	2 (1)	ړن,		6.47
	(2)	ړی .	2	3.61
	(3)	107	/	0. >>
	(5)	٠٠٨	2	3.61
	(3)	. د د .	/	077
	3 (1)	. 62	2	3.61
	(a)	د دري	Ş	3.61
	(3)	,03	/	0,77
	(4)	٠٥٦	0	0
	(5)	ر ن ک		0.77
	·	1		

SURVEY REFERENCE #: 15

DATE OF SURVEY: 7-12-02

NAME OF SURVEYOR: Lenny Smith

SURVEY METER IDENTIFICATION:

Mfg: Ludlum

Background Reading: ____Od__mR/hr

Model: 3

Serial: 95059

INSTRUMENT ID:

Mfg: Ludlum

Background Reading: ,70 cpm

Model: 2200 (scaler) / 43-10 (alpha)

Efficiency: 0.351 % MDA: 8.71 dpm

Description (attached sketch if needed) (Area, equipment, vehicle, materials, etc.)	Item #	Gross mR/hr	Gross cpm	dpm per 100 sq. cm
	1	.02	3	6,55
Chunks of Constate in exclusion Zone	2	.02		.85
exclusion Zone	3	.02	0	0
	4	.02	1	.85
	5	.02		, 8 5
	6	.02	0	0
	7	.02	1	,85
	8	.02	0	0

SURVEY REFERENCE #: 16

DATE OF SURVEY: 7-16-02

NAME OF SURVEYOR: Lenny Smith

SURVEY METER IDENTIFICATION:

Mfg: Ludlum

Background Reading: .02 mR/hr

Model: 3

Serial: 95059

INSTRUMENT ID:

Mfg: Ludlum

Background Reading: , 70 cpm

Model: 2200 (scaler) / 43-10 (alpha)

Efficiency: 0.351 %

MDA: 8.71 dpm			y	
Description (attached sketch if needed)	Item	Gross	Gross	dpm per
(Area, equipment, vehicle, materials, etc.)	#	mR/hr	срт	100 sq. cm
		.02		.85
Concrete from C-G/7-11	à	.02	1	85
	3	.02	0	0
	4	, 02	1	,85
	5	.02	0	0
	6	.02	0	0
	1	.02	O	0

Mfg: Ludlum

SURVEY REFERENCE #: 17

DATE OF SURVEY: 7-23-02

NAME OF SURVEYOR: Justin Hubbert

SURVEY METER IDENTIFICATION:

Model: 3 Background Reading: OamR/hr

Serial: 95059

Mfg: Ludlum INSTRUMENT ID:

Background Reading: . Schm Model: 2200 (scaler) / 43-10 (alpha)

Serial: 102770 / PR113195 Efficiency: 0.351 MDA: 8.71

Description (attached sketch if needed)	Item	Gross	Gross	døm per
(Area, equipment, vehicle, materials, etc.)	#	mR/hr	срт	100 sq. cm
	1	.02	<u> </u>	1.48
Concrete From H-12	ລ	, 02	0	Ŏ
	3	.09	0	0
	J	.02	l	1.49
	5	,02		1.412
	و	, ၀၃	à	4.27
	7	. 0ວ	3	4,27
	∞	. Ø2	\sim	0
				
L			J	

SURVEY REFERENCE #: 18

DATE OF SURVEY: 8-13-02

NAME OF SURVEYOR: Leonard Smith

SURVEY METER IDENTIFICATION:

Mfg: Ludlum

Background Reading: __OQ _mR/hr

Model: 3

Serial: 95059

INSTRUMENT ID:

Mfg: Ludlum

Background Reading: . 53 cpm

Model: 2200 (scaler) / 43-10 (alpha)

Efficiency: 0.351 MDA: 8.71 dpn

	···		
Item	1	Gross	dpm per
#	mR/hr	cpm	100 sq. cm
/ _	.02	1	1.34
2	.02	0	0
3	.02	1	1.34
4	.02		1.34
5	.02		1,34
			<u> </u>
	# 1 2 3	# mR/hr 1 .02 2 .03 3 .02	# mR/hr cpm 1 .02 1 2 .03 0 3 .02 1 4 .02 1

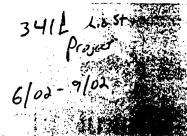


APPENDIX M

Film Badge Results

STAN A HUBER CON INC ATTN STAN HUBER 200 N CEDAR ROAD NEW LENOX IL 60451

Landauer, Inc. 2 Science Road Glenwood, Illinois 60425 1586 Telephone: (708)755-7000 Facsimile: (708)755-7016 www.landauerinc.com



RADIATION DOSIMETRY REPORT

ACCOUNT NO.	SERIES CODE	ANALYTICAL WORK ORDER	REPORT DATE	DOSIMETER Beceived	-	PAGE NO
67627	NL1	0219740433	07/19/02	07/16/02	3	1 OF 1

PANT 3ER	NAME CLARK	NAME	1 0		TION			T (MREM) WN BELOW			UMULATED IT (MREM)		EAR TO D QUIVALEN		003E	LIFETIMI QUIVALEN	E IT (MREM)	RDS 'EAR	I'ON (YY,)M
PARTICIPANT NUMBER	ID NUMBER	BIRTH DATE	SEX	S USE	RADIATION QUALITY	DEEP DDE	EYE LDE	SHALLOW SDE	DEEP DDE	EYE LDE	SHALLOW SDE	DEEP DDE	EYE LDE	SHA'LLOW SDE	DEEP DDE	EYE LDE	SHALLOW SDE		NCEPTION DATE (MM/YY)
FOR MON	TORING PE	RIOD:				.06/01/	02 - 06	/30/02		QTR 2			2002						
00135 00138 00139 00140 00141 00145 00145 00147 00148 00149	CONTROL VISITOR		P P P P P P P P P P P P P P P P P P P	CNTRL WHBODY WHBODY WHBODY WHBODY WHBODY WHBODY WHBODY WHBODY WHBODY WHBODY WHBODY WHBODY WHBODY WHBODY WHBODY WHBODY WHBODY WHBODY		м (%) (%) (М) М	M M M M M		M M M M M M M M M	M M M M M M M M M	MARCHARA MAR	M M M M M M M M M M M M M M M M M M M	M M M M M M M M	M M M M M M M M M M M M M M M M M M M	16 2 38 18 M M M M M M	16 2 38 20 M M M M M	M	6666666666	10/78 12/00 12/00 12/00 12/00 12/00 10/01 10/01 10/01 10/01 10/01
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LANDAUER, INC. 2 SCIENCE ROAD GLENWOOD, ILLINOIS 60425 - 1586 Telephone: (800) 323-8830 STAN A HUBER CON INC ATTN STAN HUBER Facsimile: (708) 755-7016 IMPORTANT: WHEN REQUESTING ANY CHANGES, ADDITIONS, OR DELETIONS, PLEASE MAKE THEM ON THIS FORM. 200 H CEDAR ROAD CHANGES TO BE EFFECTIVE FOR YOUR NEXT WEAR DATE MUST REACH THE OLENWOOD OFFICE NO LATER THAN 06/06/2002 STANDARD SPECIAL ΙL NEW LENOX PLEASE DO NOT DUPLICATE CHANGES REQUESTED DURING PRECEDING 20 DAYS. HOLDERS HOLDERS 60451 DO NOT RETURN CHANGE REQUESTS WITH YOUR DOSIMETERS SINCE THIS DELAYS HANDLING. Holder included. PLACE "D" IN DELETE ACCT. NO. SERIES EXPOSURE PERIOD BADGE DATE SERIES NAME **USE REVERSE SIDE FOR** 67627 NL1 06-01-02 1 MONTH M **ADDITIONS AND OTHER** NL1 CHANGES SERVICE CHANGE ORDER S1812904469 18 DELETE CHANGE SERIES PARTICIPANT NUMBER BADGE NAME - MAXIMUM OF 34 LETTERS & SPACES ID NUMBER BIRTH DATE SERIAL NUMBER SEX MO. DAY YEAR Pohond TYPE (D) FROM 00NL1 CONTROL 6629856C 00134 P1 VISITOR 6629857C 00135 P1 VISITOR 6629858C C.445E notused 00136 P1 VISITOR 6629859C 505014 00137 Ρī VISITOR 6629869C Gravin

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	SAKE 12"	\$18129	304469	67627 NL1			18		
DELETE (D)	CHANGE SERIES FROM TO	PARTICIPANT NUMBER	BADGE TYPE	NAME - MAXIMUM OF 34 LETTERS & SPACES		ID NUMBER	SERIAL NUMBER	SEX	
		00138	P1 .	VISITOR Odell Morgen			6629861C	m	
		00139	Pi	VISITOR John Anderson			> 6629863C	n	
		99149	P1	VISITOR Keirh Carlson			8629863C	N	5
		00141	P1	VISITOR Tom Cretary			6629864C	מי	
		00144	P1	VISITOR Rich Berggreen			- 6629865C	جد	
		00145	P1	VISITOR JOHL ESSER			665386C	2	1
		00146	P1	VISITOR Dungs Guille			66298670	М]]
		00147	P1	VISITOR TIM OBCITA			6629868C	3	
		00148	Pl	VISITOR LEADS/1 Sm. +5			6653863C	M	<u> </u>
		00149	P1	VISITOR JUSTIN HYSbert			66298700	M	
		00150	P1	VISITOR GEOR HUSE!			6629871C	M	
		00151	P1	VISITOR	tun Witu		66298720		

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STAN A HUBER CON INC ATTN STAN HUBER 200 N CEDAR ROAD NEW LENOX II. 60451



Landauer, Inc. 2 Science Road Glenwood, Illinois 60425~1586 Lelephone: (708)755-7000 Facsimile: (708)755-7016 www.landauer.ttc.com



RADIATION DOSIMETRY REPORT

ACCUUNT NO.	SERIES CODE	ANALYTICAL WORK ORDER	REPART DATE			PAGE NO.
67627	NL1	_0222410192	08/15/02	08/12/02	3	1 OF 1

PANT		NAME	rr. U I		NO!			t (MREM) WN BELOW			UMU! ATED IT (MREM)		FAR TO E		DOSE E	LIFETIMI EQUIVALEN		ORDS YEAR	INCEPTION ATE (MM/YY)
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OBALITY CONTROL RELEASE: LMR

- PR 7543 - RPT130 - N1



LANDAUER, INC. 2 SCIENCE ROAD GLENWOOD, ILLINOIS 60425 - 1586 Telephone: (800) 323-8830 STAN A HUBER CON INC ATTH STAN HUBER Facsimile: (708) 755 - 7016 IMPORTANT: WHEN REQUESTING ANY CHANGES, ADDITIONS, OR DELETIONS, PLEASE MAKE THEM ON THIS FORM. 200 N CEDAR ROAD CHANGES TO BE EFFECTIVE FOR YOUR NEXT WEAR DATE MUST REACH THE OLENWOOD OFFICE NO LATER THAN 07/07/2002 SPECIAL STANDARD NEW LENOX ΙL PLEASE DO NOT DUPLICATE CHANGES REQUESTED DURING PRECEDING 20 DAYS. HOLDERS HOLDERS 60451 DO NOT RETURN CHANGE REQUESTS WITH YOUR DOSIMETERS SINCE THIS DELAYS HANDLING. Holder included. PLACE "D" IN DELETE ACCT. NO. **SERIES EXPOSURE PERIOD** BADGE DATE **SERIES NAME USE REVERSE SIDE FOR** 67627 NL1 1 MONTH M 07-01-02 ADDITIONS AND OTHER NL1 **CHANGES** SERVICE CHANGE ORDER S1816403916 18 DELETE CHANGE SERIES PARTICIPANT NUMBER BADGE NAME - MAXIMUM OF 34 LETTERS & SPACES ID NUMBER SERIAL NUMBER SEX BIRTH DATE retunky TYPE FROM MO. DAY YEAR TO 00NL1 P1 CONTROL 7643278C P1 VISITOR 76432790 00134 7643280C 00135 P1 VISITOR Jereminh Chase 5046 PYTER 00136 VISITOR 76432B1C Roger Gravin 00137 VISITOR 7643282C 8

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DELETE CHANGE SERIES F (D) FROM TO	PARTICIPANT NUMBER	BADGE TYPE	NAME -	MAXIMUM OF 34 LETTERS & SPACES	ID NUMBER	SERIAL NUMBER	SEX	BIRTH DATE MO. DAY YEAR
	00138	P1	VISITOR	Odell Morgan		7643283C		
	00139	P1	VISITOR	John Anderson		7643284C		
	00140	P1	VISITOR	Keth Carlson		7643285C		
	00141	P1	VISITOR	\$ Ini Rouse her		7643286C	M	
SE ille	-y 00144	P1	VISITOR	Rich Sungarun		7643287C		
	00145	P1	VISITOR	Michael Bushler	4	7643288C		
	00146	·P1	VISITOR	Dungs Guerrier		7643289C	M	
	99147	P1	VISITOR	Tim O'Brien		7643290C		
	99148	P1	VISITOR	Leonard Smith		764 <u>3291</u> C		
	00149	P1	VISITOR	Justin Hubbert		76432920		
	00150	P1	VISITOR	Glenn Huber		7643293C		
	00151	P1	VISITOR			7643294C		

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STAN A HUBER CON INC ATTN STAN HUBER 200 N CEDAR ROAD NEW LENOX IL 60451

Landauer, Inc. 2 Science Road Glenwood, Illinois 60425-1586 Telephone: (708)755-7000 Facsimile: (708)755-7016 www.landauerinc.com



RADIATION DOSIMETRY REPORT

ACCOUNT NO.	SERIES CODE	ANALYTICAL WORK ORDER	REPORT DATE	_		PAGE NO.
67627	NL1	0225460036	09/17/02	09/11/02	4	1 OF 1

IPANT BER		NAME		<u> </u>	TADIATION	DOS FOR	E EQUIVALE PERIODS SHO	NT (MREM) OWN BELOW			UMULATED IT (MREM)		EAR TO D		DOSE 8	LIFETIM	E IT (MREM)	JRDS YEAR	TION //W/YY)
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00147	VISITOR VISITOR		F	WHBC	P	_ 1	M	M M	M	i) M	M M	M	M	ij M) M	M	M		10/01
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			r 0013	36 P1	VISITOR		Buchler		70	8449976C		- 	1 1
2			0013	37 P1	VISITOR	_	ger Gravia	1/		8449977C	1		10.

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(D)	CHANGE SERIES FROM TO	PARTICIPANT NUMBER	BADGE TYPE	NAME - MAXIMUM OF 34 LETTERS & SPACE	:S	ID NUMBER	SERIAL NUMBER	SEX	BIRTH DATE MO. DAY YEAR	
		00138	P1	VISITOR Odell Morgen			84499780]
		¥ 00139	P1	VISITOR John Anderson	√		8449979C]
		/ 00140	P1	VISITOR Keigh Cooken	$\sqrt{}$		8449980C			
		A 00141	Pi	VISITOR Eric Reuscher	V		8449981C	l		
		¥ 00144	Pi	VISITOR RICK BETTGGEER	/		8449982C]
		₹ 00145	P1	VISITOR Michael Buchler		٦,	8449983C]
-		+ 00146	P1	VISITOR DEMOS GUERTER			8449984C			
		F 00147	Pl	VISITOR TO BOX.	7		8449985C			
		x 00148	P1	VISITOR Leoner Sauth	J		8449986C	<u> </u>	<u> </u>	
1		00149	P1	VISITOR Justen Hulbert	/	!	8449987C		n	χį
		Y 00150	Pi	VISITOR Glein Huber	$\overline{}$		8449988C			
		¥ 00151	P1	VISITOR TOLY Slings	V		8449989C	M]
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STAN A HUBER CON INC ATTN STAN HUBER 200 N CEDAR ROAD NEW LENOX IL 60451



Landauer, Inc. 2 Science Road Glenwood, Illinois 60425-1586 Telephone: (708)755-7000 Facsimile: (708)755-7016 www.landauerinc.com



RADIATION DOSIMETRY REPORT

Λ	CCOUNT NO.	SERIES CODE	ANALYTICAL WORK ORDER	REPORT DATE			PAGE NO.
	67627	NL1	0228860244	10/21/02	10/15/02	4	1 OF 1

IPANT SER	1	NAME	11	Y U	NOIT.	FOR PER	QUIVALEN	T (MREM) NN BELOW		ERLY ACCI			EAR TO D		DOSE F	LIFETIM QUIVALEN	E IT (MREM)	ORDS YEAR	INCEPTION ATE (MM/YY)
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20/15	75110R			CHEST		กหกิรธุด		a and	A COLOR		N N						M	W.	10/01
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7	ATTN 200 N EH L	A HUBER STAN HUBIN CEDAR RILENOX	ER OAD	IL 6945		HRPORTANT CHANGES TO MUST REAC PLEASE DO OQ NOT RE	; WHEN REQUES D BE EFFECTIVE S H THE OLENWOOI NOT DUPLICATE	TING ANY CHAI OR YOUR NEXT O OFFICE NO LA CHANGES REQU QUESTS WITH Y	TERTHAN 09/0 EBTED BURING PRECEDING TOUR DOSIMETERS BINGE T	TIONS, PLEASE MA 16/209 D ZB DAYS.	KE THEM ON		=	: (708) DARD) 323 – 8830) 766 – 7016 SPECIAL HOLDERS	
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				9913	36	Pi	VISITOR	_		Ednock	V		9183424C	11		- V
1				9913	37	P1	VISITOR	· /	DEC Grand		/		9183425C			<u></u>

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ELETE (O)	CHANGE SERIES FROM TO	PARTICIPANT NUMBER	BADGE TYPE	NAME - MAXIMUM OF 34 LETTERS & SPACES	ID NUMBER	SERIAL NUMBER	SEX	BIRTH DATE MO. DAY YEAR
		00138	P1	VISITOR Odell Merses V		9183426C		
		00139	P1	VISITOR John Anderson V		91834270		
		00140	P1	VISITOR		9183428C		
		00141	Pl	VISITOR		9183429C		
		00144	P1	VISITOR Rich Stragers		9183430C		
		00145	PI	VISITOR		9183431C		
		00146	P1	VISITOR Dungs Guerrier V		9183432C		
		00147	P1	VISITOR Tim OBOSEN		9183433C		
		00148	P1	VISITOR JERRY Krant V	_	9183434C	M	
		00149	P1	VISITOR Lindsy Aschim		9183435C	تحر	
		00150	P1	VISITOR Steen Huber		91834360		
		00151	P1	VISITOR		91834370		
				-				



APPENDIX N

Manifests for Shipping of Radiological Materials Delivered by Kerr-McGee to EnviroCare of Utah, Inc.